

Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Vol. VIII.

CHICAGO, ILL., FEBRUARY 22, 1909.

No. 8.

CAROLINA PORTLAND CEMENT COMPANY

We are the largest distributors of Portland Cement, Lime Plaster, Fire-brick and General Building Material in the Southern States and have stocks of Standard Brands at all of the Atlantic and Gulf Seaports, and at our interior mills and warehouses, for prompt and economical distribution to all Southern territory. Write for our delivered prices anywhere. Also Southern agents for the "Dehydrated" waterproofing material. "Universal," "Acme" and "Electroid" Brands Ready Roofing. Get our prices.

Charleston, S. C. Birmingham, Ala. Atlanta, Ga. New Orleans, La.

DEXTER Portland Cement
THE NEW STANDARD

Sole Agents **SAMUEL H. FRENCH & CO.** Philadelphia



UNION MINING COMPANY

Manufacturers of the Celebrated

MOUNT SAVAGE
FIRE BRICK
GOVERNMENT STANDARD

DEVOTE a special department to the manufacture of Brick particularly adapted both physically and chemically to

**Lime Kiln and
Cement Kiln
Construction**

Large stock carried. Prompt shipments made. Write for quotations on Standard and Special shapes, to

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CAPACITY, 60,000 PER DAY.
ESTABLISHED 1841.



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FOR GRIFFIN,
TUBE AND
BALL MILLS

ALMA
Portland Cement

STANDARD BRAND
OF
MIDDLE WEST.

Specially adapted to all Reinforced Concrete and High-Class Work.

Alma Cement Co.
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Second Annual Cement Show at Chicago a Grand Success.
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Is used for sawing stone in more than a dozen states. Cuts more and lasts longer than any other sand on the market. Unexcelled for Roofing, Facing Cement Blocks, White Plaster, etc. Freight rates and prices on application.

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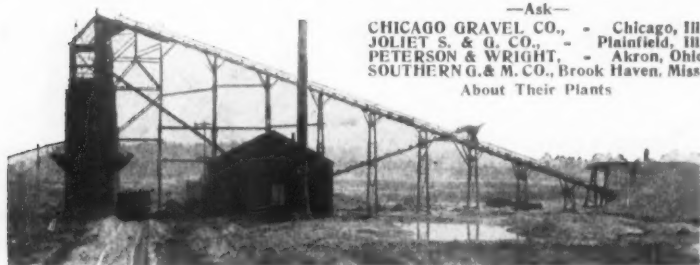


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Acknowledged by competent Architects and Engineers to be unequalled for fineness, wonderful development of strength and sand carrying capacity.
"THE BEST IS THE CHEAPEST"

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Stone Crushing, Cement and Power Plants

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Capacity, 8,000,000 Yearly.

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A Dependable Portland Cement

An Unblemished Record for
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The Recognized Standard
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1,000,000 Barrels Annually

Highest Quality

THE BEST THAT CAN BE MADE

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No. 108 La Salle Street, CHICAGO, ILL.

HYDRATED PORTLAND LIME

IS IDEAL FOR

**Waterproofing
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SAVES MONEY. TRY IT.



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Rock Products

DEVOTED TO
Concrete and Manufactured
Building Materials

Volume VIII.

CHICAGO, ILL., FEBRUARY 22, 1909.

Number 8.

LOUISVILLE'S NEW SEWERAGE SYSTEM.

Reinforced Concrete Engineering of the Highest Developed Type for the Complete Installation of Modern Metropolitan Improvements.

The Southern outfall sewer, the largest section of work involved in the construction of Louisville's new sewerage system, which is to cost \$4,000,000, and to be as comprehensive as it is possible to make it, is of exceptional interest to the concrete industry, because it is constructed, with a minor exception, exclusively of reinforced concrete. The adoption of that form of construction for so important a work may be taken as a victory of considerable proportions, and is certainly one of the most important recorded for it in recent years.

As a foreword, it may be explained that the Commissioners of Sewerage of Louisville are constructing a system which has several important arteries, including, besides the southern outfall, the Beargrass interceptor, the Happy Hollow sewer and others. It is intended to construct smaller laterals to these main trunk lines, so that every section of the city will be drained perfectly.

The outfall sewer is just about five miles long, and in consideration of its length, its size and its depth, it may be considered the largest in the South. There are others larger, others longer and others deeper, but none larger, longer and deeper than it. It is to cost

approximately \$1,700,000, according to the estimates of the chief engineer, and it is estimated also that 60,000 cubic yards of concrete will be used in its construction, an average of 12,000 cubic yards to the mile. That gives an idea of its tremendous dimensions.

Its size varies, growing gradually larger as it approaches the river. At its greatest size a cross-section would show that it is constructed in horseshoe shape equivalent to a circle 15 feet 6 inches. At that point the thickness of its walls is 11 inches at the crown, 17 inches at the springing line and 12 inches through the invert. In order to maintain the slope it has of course been necessary to excavate to a greater depth as it approached the river, and on sections immediately adjoining it the excavation has been 36 to 46 feet below the surface, necessitating the handling of an immense amount of earth.

Owing to the great scope of the work, and the evident impossibility of one contractor handling it all, as well as the need of having work going on simultaneously in many places, the sewer is being constructed in sections. These vary in length from 2,100 feet to 6,100 feet. Five sections are now under

construction, or rather, to be exact, contracts have been let for that many. All but Section E, the most recent award, are under construction, and work on that is to start at once.

The contractors who are doing the work are as follows:

Section A. Ferro-Concrete Construction Company, Cincinnati, O.

Section B. T. B. Jones & Co., Baltimore, Md.

Section C. American Engineering and Construction Company, Chicago.

Section D. The Weber Company, Chicago.

Section E. Ferro-Concrete Construction Company, Cincinnati, O.

At the present there are 2,500 men working on the sewer. Fully 500 of these are engaged in placing the concrete. There are seven openings, involving that many gangs and plants, there being two openings on Section A and that number on Section B. It may be stated here that Charles F. Fitch & Co. is the firm which is placing the concrete for Section B and C, having been engaged to do this by the contractors for those sections.

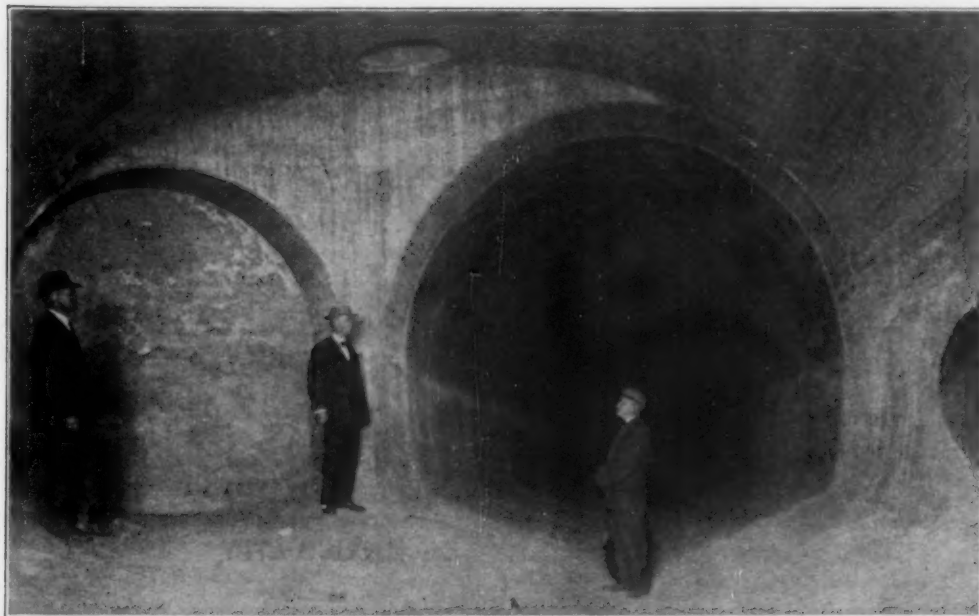
The work is progressing with beautiful system and precision. There is a railroad running along the line of work, this connecting with the Kentucky and Indiana Bridge Company, which forms a belt line about the city. Over its tracks materials are brought, transferred to the sewer railroad, and taken to the exact spot required. The plants and equipment of all the contractors are comprehensive, and this has enabled splendid progress to be made.

The concrete used in the southern outfall has been mixed in the following proportions: One part Portland cement, two and one-half parts sand and five parts gravel. This has been varied to meet the conditions of the gravel, which has ranged in diameter from a quarter inch to two inches. It has been found easier and better to vary the mix rather than to grade the gravel perfectly. Gravel smaller than a quarter of an inch has been graded as sand. Gravel has been used exclusively in the concrete, no crushed stone whatever going into its composition, largely, it is understood, because of the tendency of the latter to erode easily.

The cement has been furnished for the mills by the following firms: J. B. Speed & Co., Louisville; Kosmos Portland Cement Company, Louisville; Lehigh Portland Cement Company, Indianapolis; United States Cement Company, Bedford, Ind.

Gravel, obtained by dredging from the bed of the Ohio River, has been furnished by the Ohio River Sand Company, of Louisville, though some has come

(Continued on page 22.)



JUNCTION CHAMBER OF SOUTHERN OUTFALL SEWER AT THIRTY-EIGHTH STREET.

POWER AND MINING MACHINERY COMPANY

The United States Government Orders Mammoth McCully Crusher

What is
good
enough
for the
United
States
Government
is good
enough
for you



Write
to-day,
asking
for our
Catalogue
No. 4 R.
Machinery
for
Rock
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Plants

The Isthmian Canal Commission have just placed an order with us for a Mammoth McCully Crusher with 36 inch opening and four No. 6 McCully Crushers. This order is secured against all competition and proves the superior merits of the McCully.

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MOST INTERESTING FEATURE SHOWN.

By the Concrete Block Makers, gathered from every part of the country, they were looked upon as the greatest business proposition in the block-making line. We know this because we were told so by hundreds of them, very many of whom were already using them and making their biggest profits from them. And that this was not mere talk was made sure by the fact that

Sales of Simpson Molds Far Surpassed All Previous Wonderful Records



Now, to those who have not seen Simpson Molds and the concrete porch work done in them, we wish to say: Does it stand to reason that our molds would continue to forge steadily ahead, in good times and bad, unless they were all right? Could we continue in business (taking out of consideration that our growth has been constant from the very beginning) if there was anything wrong with our product?

Think over these questions, and recall to your minds the immense number of concrete equipment concerns which have sprung up and disappeared in the past few years.

"The Simpson Concrete Porch Book" tells about our molds, and is sent to those who have a business interest in them, free of cost, if they will ask for it on their own letterheads [or enclose their business cards.

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No. 498 N. High Street, COLUMBUS, OHIO

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ABSOLUTE UNIFORMITY

The best technical and practical skill, backed up by an experience of years, operating the most modern plant in the country on the highest grade of raw materials justifies our claim that

ROYAL IS PERFECTION

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Stands for Quality



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**High Tensile Strength
Light Uniform Color
FINELY GROUND**

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Plant: Castalia, Erie County, Ohio

Capacity: 2,000 Barrels Daily

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FROM "CONCRETE CONSTRUCTION ABOUT THE HOME AND ON THE FARM"



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The time and trouble taken for the careful selection of the material will be amply repaid by the quality of the finished concrete

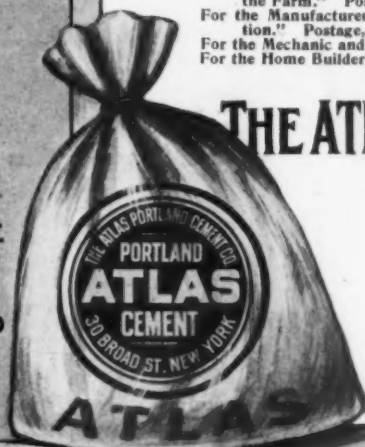
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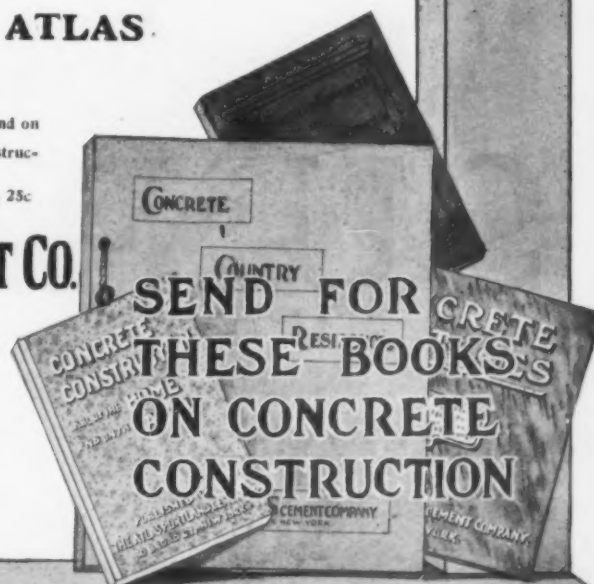


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Work where a Permanent Pure
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DAMP AND WATERPROOFING PAINT

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WATERPROOF COMPOUND

This Compound makes Concrete Impervious to Water,
Beautifies and Waterproofs Surfaces and
Structures from Cellar to Roof.

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Three Great Plants, at IOLA and INDEPENDENCE, KANSAS, making
Perfect Cement, with Unsurpassed Shipping Facilities,
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YOUR CEMENT NEEDS CAN BE SUPPLIED EFFICIENTLY

Daily Capacity of 8,000 Barrels. Write today to

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General Sales Office: 811 Commerce Building, KANSAS CITY, MO.

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Used by the Railroads in Kentucky, Ohio, West Virginia, and Virginia during the past five years. Cement as finely ground as any on the market. Guaranteed to pass all the standard specifications.

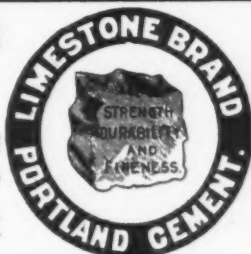
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Sales Office: Michigan Trust Building

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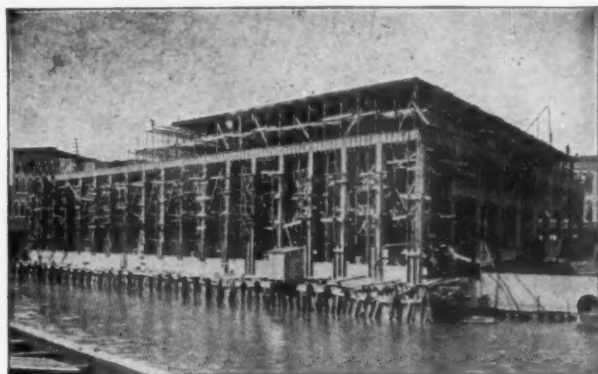
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Makes all Concrete Watertight

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Write for samples of our Pure White Portland Cement.

Do not accept a substitute, as there are many adulterated compounds on the market.

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CEMENT PLANT
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Daily Capacity
2500 Barrels



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IN NATURAL STONE COLORS

Made Under a Mechanical Pressure of 80 Tons. Finest Factory Work
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ALL KINDS OF CONCRETE WORK

Thoroughly demonstrating experiments prove that this waterproofing preparation is the most economical and efficient thing of the kind ever offered on the market. It is permanent and constant in colors of the finished product, because it is made of natural materials of basic character that are unchanging. Permanent as the rock of ages.

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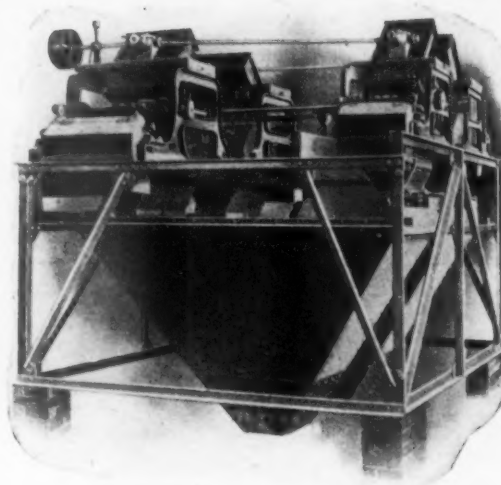
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Many successful installations.
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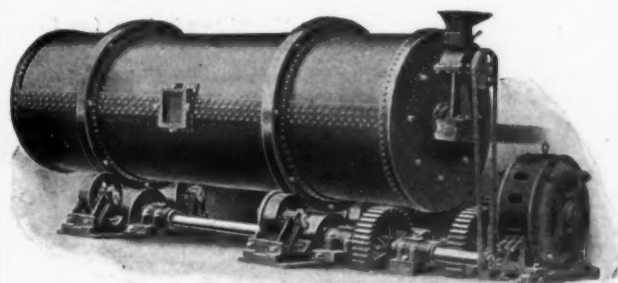
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HIGH CALCIUM HYDRATE

The Best for Every Purpose where Chemically Pure Lime Is the Indispensable Element

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Difficulties can be Simplified and Overcome by the use of our Correctly Hydrated Lime.

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can be made more waterproof, cheaper, and of lighter color by the use of from 20 to 40% of pure hydrate free from magnesia. This substitutes the same amount of cement and does not impair the strength of the block.

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Commercial and chemical requirements call for pure lime. We furnish a product of 98% analysis.

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Tiger Brand White Rock Finish the best known and smoothest working Hydrated Lime manufactured.

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Our Dump Cars are used on most of the large rock and dirt moving operations throughout the United States and Canada.

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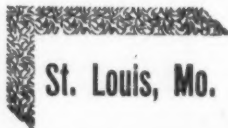
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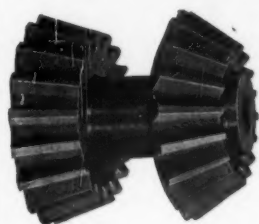
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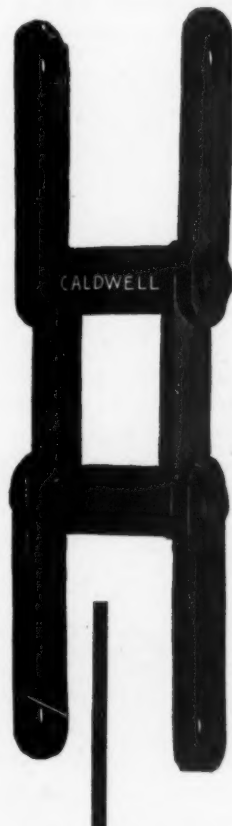
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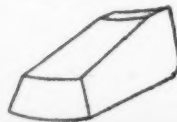
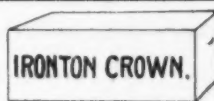
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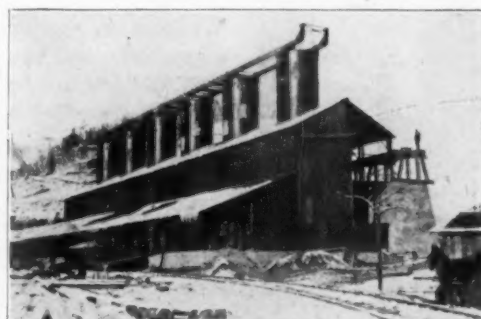
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Canoe Creek, Pa.

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ESTABLISHED IN LOUISVILLE, KY., 1902.

DEVOTED TO CONCRETE AND MANUFACTURED BUILDING MATERIALS.

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Communications on subjects of interest to any branch of the stone industry are solicited, and will be paid for if available. Every reader is invited to make the office of Rock Products his headquarters while in Chicago. Editorial and advertising copy should reach this office at least five days preceding publication date.

TERMS OF ANNUAL SUBSCRIPTION.

In the United States and Possessions and Mexico.....\$1.00
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Subscriptions are payable in advance, and in default of written orders to the contrary, are continued at our option.
Advertising rates furnished on application.

Entered as second-class matter July 2, 1907, at the Postoffice at Chicago, Illinois, under Act of March 3, 1879

The lime hydrators have gained the recognition of the great American concrete industry.

Improvements of the sand plant of the future means larger output for less money—cheaper and better sand for mortar and every other purpose.

The rate that a steam shovel picks up material in the quarry almost makes one dread lest the earth itself will not finally disappear, without a support for the shovel being left.

At the road contractors' convention there is no little interest being taken in our campaign for concrete accessories such as bridges and culverts, as well as the concrete roadway itself.

When all the machinery that has been purchased at the various exhibits in all parts of the country gets to work there will be an active call for cement, the most wonderful and attractive building material.

Cement users are the most wideawake class of practical construction people we know anything about. They are quick to recognize and adopt an improvement in machinery or equipment, and that is the reason why the cement shows are profitable to the exhibitors

The specifications for public improvements at the leading urban markets indicate the oncoming of a very active season in heavy constructing work. Smaller towns that did so much last year to help out the situation show no abatement. Long delayed improvements by the big corporations will begin with the opening season, and unless some unforeseen disturbance occurs the year of 1909 will be the beginning of a greater prosperity.

Hotel fires suggest repeatedly that there is room for considerable improvement in the selection of materials for such purposes. Of course old buildings dating two decades or more back are mere shells of brick with wooden interior construction. Such hotels should not be used any higher than the third story, for the hazard of the patron's life at that height is just about 50 per cent. The hotel forces half the risk upon its patron, and he voluntarily elects to take the other half of the risk in his own hands. When it comes to the new construction of hotel properties there is no excuse for having any fire risk to mention, for with concrete structural members and approved fire-proofing materials, together with good design, even the danger of fire can be wiped out. This will come about upon a much broader scale than at present, because the people who pay the bills demand it.

The manufacturers of building materials have been holding repeated conferences and conventions in their respective lines, and all of these have a tendency for harmony among the manufacturers, and besides a movement to work in conjunction with established retailers in securing the most economical, satisfactory and profitable disposition of their several outputs. Cement manufacturers, lime manufacturers, brick, tile and sewer pipe manufacturers, plaster manufacturers—all have a better understanding with one another and their customers than has existed for many moons. While there are still bad gaps in some of these lines, which are both unfortunate and unnecessary, the atmosphere is much clearer, and it is cordially to be hoped that we will see no such routs as occurred last year.

Our field forces have been busy with the conventions of the retailers in every section of the country. Louisville, Kansas City, Toledo, Chicago and Milwaukee and a number of lesser gatherings are recorded in our retailers' department. There is one sentiment running through the trade everywhere, and it can be expressed in a few words. The retailers have decided that it is easier to pull together for prosperity than it is to pull separately. They declare that they are ready to do their part in full, and ask the cooperation of all other interests in the business to secure the biggest possible profit in the marketing of building materials in the coming season. The reports of all the meetings come from our men on the job for your benefit.

The second annual Chicago Cement Show has just closed, and it was a marvelous success from every standpoint. The fact this number of Rock Products has been delayed on account of the attention our whole local force had to give to this great occasion. It was an object lesson of well-organized effort to bring together all the worthy developments of systems and machines for the most intelligent and profitable using of cement in greater quantities. Practically every exhibitor openly declares that their actual sales and future business taken on far exceeds expectations or any past experience with cement workers' exhibitions. The attendance ran up into the hundred thousands, clearly demonstrating the thirst of the general public for cement education, and it was there for them without limitation. The seeds of a very great expansion in the uses of cement has been planted, and all the mixers and molding devices that were sold will be needed to turn into practical results the resolutions taken by home builders, investors and the advocates of permanent public improvements. Chicago has taken the lead with a permanent annual exhibition or festival devoted to the promotion of cement uses, and its influence is already reaching to millions of people who need this kind of education.

The adaptability of materials made from rock is so little understood, even by those supposed to know, that all written words upon the subject are practically new literature. This comes more vividly to us, perhaps, than others because for more than seven years we have been steadily writing subjectively on these well known lines of materials, and in that time have produced more original literature than was in existence seven years ago one hundred times over. More is the pity that the architect who has the job of selecting materials is still unable for the most part to recognize improvements, and will not even allow himself to get the information and established knowledge that he so sadly lacks. We see opportunity knocking vainly every day at the doors of men who feel that their genius is being overlooked by an inappreciative public. They always wake up too late. With antiquated ideas about the most vital materials they must use, they are not in a position to lead, but have to be pushed forward by public sentiment. We have taught contractors and material men generally to read more and to profit thereby, and while there are some shining exceptions who are getting the commissions nowadays, the architects are as a class in a rut with no hope of catching up with modern progress. The study of pet combinations of lines without the best knowledge of the materials by which they must be expressed, if at all, will not get them very far in this twentieth century. A little practical reading would help some.

EDITORIAL CHAT

M. R. MacKinnon has been appointed the general sales manager of the Continental Portland Cement Company, Syndicate Trust Building, St. Louis. Mr. MacKinnon succeeds Capt. F. S. Clark, who resigned the first of February.

M. J. Hollinger, formerly chief chemist for the Southern States Portland Cement Company, Rockmart, Ga., recently accepted the position of chief chemist of the Standard Portland Cement Corporation, Napa Junction, Cal.

The Universal Portland Cement Company, with plants at Pittsburg and Chicago, have offered with their greetings a most original calendar. The background portrays a mass of rough concrete, in the center of which is embedded their trade-mark, the whole presenting a most unique concrete appearance.

"The Winter Girl," whose picture appears on the calendar issued by the Golden Gate Brick Company, 660 Market Street, San Francisco, Cal., is surely a vision of loveliness and is a very fit companion for the grade of brick which this concern manufactures.

F. W. Penfield, of the Aetna Powder Company, has gone to Europe. Mrs. Penfield has gone with him and they are taking in the sights of Venice, Egypt and other places of interest over on the other side.

George H. Keys, who sells powder to everybody who needs powder, was in Chicago the other day just to catch his breath. He reports the quarry operators getting busy.

Charley Weiler, of the Western Lime and Cement Company, sends us a wireless from some place not stated in the midst of the Mediterranean saying that he regrets his inability to attend the conventions of his business interests this month. He is having a good time globe-trotting, it would seem, all but the sea voyages.

Charles C. Kritzer, the genial father of much successful lime hydration in America, is gratified to observe the recognition of hydrate by the concrete industry.

Richard Kind and Uncle Peter Degnan were sadly missed at the Louisville convention of the National Builders' Supply Association.

The next grand occasion for the cement users is the Northwestern Cement Products Convention at Minneapolis, March 2, 3, 4, 5. President Martin T. Roche and Secretary J. C. Van Doorn have worked faithfully and every space in the big Minneapolis Armory has been taken. It will be the biggest show of that association without a doubt. By the way, the Armory was built of cement brick made on L. V. Thayer's Peerless brick machine. Of course ROCK PRODUCTS will be there with a welcome for all.

Gideon L. Austin, who was formerly superintendent of the plant of the Buckeye Portland Cement Company, Bellefontaine, O., left on February 1 for Japan, where he will build a plant for the manufacture of Portland cement.

C. A. Monks, who has been connected with the roofing and cement construction business in Louisville for several years, has recently severed his active connection with his old company to become an engineer with the Barrett Manufacturing Company, New York. Neil is a capable operator in roofing and building materials and will succeed in his new position.

Amos Kendall, Jr., has recently connected himself with the Wolverine Portland Cement Company, whose sales office is located in the Chamber of Commerce Building, Chicago. "Amos" is a chip off the old block as far as looks go, and we believe he will be an apt pupil in the art of selling cement.

One of the aggressive men connected with the selling end of the cement business in the south is H. C. Koch, Sales and Traffic Manager of the Dixie Portland Cement Company, at South Pittsburg, Tenn., headquarters at Chattanooga. Mr. Koch, on starting creased capacity.

this mill last year, came from Kansas City, where he had been connected with the United Kansas, and while somewhat familiar with the southern trade, had practically to make new friends in some parts of the territory, and the success of this mill and disposition of their product in securing sales agents, the most aggressive in southland, is attributed to Mr. Koch's business tact and aggressive salesmanship.

J. F. Lynch believes in a glad hand and a big smile; or a big hand and a glad smile. It's all the same to J. F. And he is a cement salesman, too. Certainly, and a good one, at that. Mr. Lynch has been sales agent with the Northwestern States Portland Cement Company, Cowham System, Mason City, Ia., ever since that company began business.

Railway Appliances Exhibition.

An exhibition of all appliances used in the construction, maintenance and operation of railways will be held on a very large scale at the Coliseum, Chicago, the week of March 15-20 inclusive. The appliances exhibited will be full size and many of them will be in operation.

For a number of years the Road and Track Supply Association has had a small exhibit of models and drawings of these appliances in the parlors of the Auditorium during the annual meeting of the American Railway Engineering and Maintenance of Way Association. As railway officials naturally would prefer to see the devices themselves, it was decided to give an exhibition that would comport in size and



J. F. LYNCH, A NORTHWESTERN CEMENT SALESMAN.

importance with the importance of the engineering and maintenance departments of American railways.

That the manufacturers have shown great interest and taken advantage of this opportunity to show their product is evidenced by the large spaces that some of them have taken. Two firms have secured upwards of 1,500 square feet each, several 1,000 square feet each, and others sufficient space to show their devices. There are only a few spaces now left. These can be secured by writing to John N. Reynolds, Secretary-Treasurer of the Road and Track Supply Association, 160 Harrison St., Chicago.

Will Rebuild Plant.

The stockholders of the Marengo Stone Company held a meeting in New Albany, Ind., recently and elected a board of directors and officers. The company succeeds the Marengo Manufacturing Company, which had its plant at Marengo, twenty-five miles west of New Albany, destroyed by fire several weeks ago.

The board of directors elected are G. S. Balthis, Dr. L. E. Grant, Simon Fronholtz and A. E. Stewart of Marengo, and J. Edward Kent, of Louisville, Ky. The officers selected were G. S. Balthis, president, and A. E. Stewart, secretary and superintendent. The plant at Marengo is to be rebuilt at once, modern machinery installed and within a few weeks the company expects to be in operation with a largely in-

Sanitary Canal Stone Sold.

A contract for the sale of 3,000,000 cubic yards of waste stone along the banks of the sanitary district canal, Chicago, was closed with the Western Stone Company at 10½ cents per cubic yard, by the trustees of the sanitary district at its weekly meeting Feb. 4. The contract will bring the board \$20,000 a year for fifteen years, and leaves a surplus of 17,000,000 cubic feet.

Elects Officers.

At the annual meeting of the stockholders of the Federal Granite Brick Company, held Tuesday, January 19, at the offices of the company at 305 Mears Building, Scranton, Pa., the following directors were elected for the ensuing year: J. W. Warnke, D. B. Hand, W. L. Schlager, Victor Koch, H. A. Raufhold, John L. Schroeder, M. H. Holgate, R. N. La Bar, A. D. Stelle. At the organization of directors J. W. Warnke was elected president, A. D. Stelle vice-president, R. N. La Bar secretary and general manager, S. J. Marsh treasurer.

Opens New Quarries.

J. E. Baker, the well-known quarryman of Martinsburg, W. Va., through Attorney George Atherton, has recently purchased eighteen acres of good quarry stone at Williamson, Pa.

The quarry has never been developed and Mr. Baker will put a large force of men to work at an early date. He is the owner of large quarries near Martinsburg, but because of some trouble with the Interstate Commerce Commission he decided to open quarries in Pennsylvania to accommodate customers in this state.

Franklin Henshaw, vice-president of the International Sand-Lime Brick and Machinery Company, 90 West Street, New York City, writes us, under date of February 13, as follows: "We have sold our Australian patent rights to a syndicate in Melbourne, and have arranged a private code for the ordering of machinery. We expect to ship equipment for the first factory as soon as it can be prepared."

How To Paint Over Concrete.

It is not safe to paint over the surface of concrete until it has stood exposed to the weather for about one year unless the surface has first been sized with acid water to kill the alkali, and even then there is some danger of bad results, says the *Architect and Engineer*. Here is a somewhat tedious method for preparing and painting such a surface, but it has the sanction of some of the best painters, says the *Master Painter*.

Slack one-half bushel of fresh stone lime in a barrel and add in all twenty-five gallons of water; when slacked and cold, add six gallons of the best cider vinegar and five pounds of the best dry venetian red. Mix well and then strain through a fine wire strainer. Use it when about the consistency of thin cream. Give the concrete surface a coat of this and after standing a day or so apply a coat of red lead and linseed oil paint. After this has dried you may paint the surface any color you wish.

Some jobs require two coats of paint over the red lead paint. In this case make the second coat of paint serve as filler and paint both. This second coat may be made with plaster of paris and oil of the consistency of buttermilk. Then break up some white lead and oil to make a paint the same consistency as the plaster paint. Now take equal parts of each of the two mixtures and "box" them together, and thin to a working consistency with turpentine. This second coat should be applied as heavy as possible, or as heavy as you can spread it well.

After this coat is dry apply your next and finishing coat of paint, which should be quite glossy, or about as you would for the last coat on wood-work outside. The object in giving it this plaster paint is to prevent the running and wrinkling of the paint where considerable paint is to be applied to the surface. And it must be made to dry quickly.

The Champlain Brick Company, Mechanicsville, N. Y., recently elected the following directors: Mrs. Gertrude T. Keefer, Stephen Lee, S. E. Hoskins, John F. Norman, Wm. H. Duffney, Sr., and others. The following officers were also elected: President, John F. Norman; vice-president, Stephen Lee; secretary and treasurer, Chas. E. Hoskins; superintendent, Wm. H. Duffney, Sr.; auditors, Stephen Lee, F. J. Norman, and C. E. Hoskins; presiding tellers, Robert Frazier and M. C. Squires.

CONCRETE ENGINEERING

Ten-Million-Pound Hydraulic Compression Testing Machine.

By RICHARD L. HUMPHREY, ENGINEER IN CHARGE.*

There is being constructed for the Structural Materials Testing Laboratories, United States Geological Survey, by Tinius Olsen & Co., Philadelphia, Pa., a vertical compression testing machine of 10,000,000 pounds capacity. This machine, having a gross weight of over 200 tons and an extreme height above foundation of about 80 feet, is the largest ever constructed.

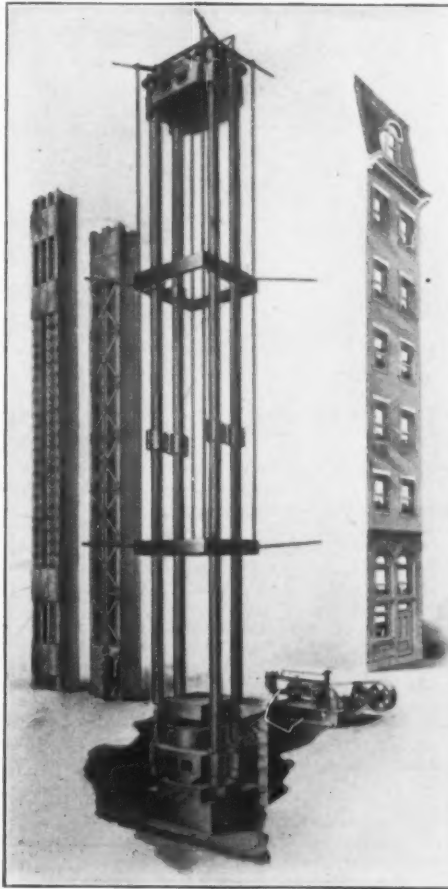
The machine was primarily acquired for the purpose of testing large blocks of stone made necessary by the study of the building stones of the country, as requested by the supervising architect. Inasmuch as it was deemed desirable to study the effect of flaws and defects of the various kinds in large blocks of natural stone, a machine of this capacity was determined upon. In order to care for a further request of the supervising architect, for data relative to the strength of structural columns of brick and concrete, as well as of structural steel, the original clearance between heads was increased from twenty-five to sixty-five feet. Already the need for this machine in the investigation of built-up structures is established through the urgent requests for its early completion.

Some idea of its size may be obtained from the accompanying illustration, in which has been sketched one of the chords of the Quebec bridge which collapsed, and also a larger chord which was used in the Blackwell's Island bridge. It is readily apparent that this machine is capable of testing built-up structures of even greater size than those referred to.

The machine is a large hydraulic press, with one adjustable head, and a weighing system for recording the loads developed in it by means of the triple plunger pump. It has a maximum clearance between heads of sixty-five feet; the clearance between the screws is a trifle over six feet, and the heads are six feet square.

The machine consists of a base containing the main cylinder with a section area of 2,000 square inches, upon which rests the lower platform or head, which is provided with a ball and socket bearing. The upper head is adjustable over four vertical screws (13½" diameter and 72" 2" long) by means of gearing

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THE NEW COMPRESSION MACHINE.

operating four nuts with ball bearings upon which the head rests. The shafting operating this mechanism is connected with a variable speed motor, which operates the triple plunger pump which supplies the pressure to the main cylinder.

The weighing device consists of a set of standard "Olsen" levers upon which is weighed one-eighth of the total load on the main cylinder. This reduction is effected through the medium of a piston and diaphragm. The main cylinder has a diameter of fifty inches, and the smaller a diameter of 59/16

inches. The weighing beam is balanced by an automatically operated poise weight and is provided with a device for applying successive counterweights of 1,000,000 pounds each. Each division on the dial is equivalent to 100-pound loads; the smaller subdivisions are possible by means of an additional needle beam.

The power is applied by means of a 15 horsepower 220-volt variable speed motor, operating a triple plunger pump. The gearing operating the upper head is driven by the same motor.

The extreme length of the main screws necessitates splicing, which is accomplished as follows:

In the center of the screws at the splice is a three-inch threaded pin for the purpose of centering the upper and lower screws; this splice is strengthened by means of split sleeve nuts, which facilitates the removal of the sleeve nuts whenever it is necessary to lower the upper head; after the head has passed the splice the sleeve nuts are replaced.

In order to maintain a constant load a needle valve has been provided, which will allow, when the pump is operated at its lowest speed, a sufficient quantity of the oil to flow into the main cylinder to equalize whatever leakage there may be. The main cylinder has a vertical movement of twenty-four inches.

The speed of the machine for purpose of adjustment, using the gearing attached to the upper head, is ten inches per minute. The speed for applying loads, controlled by the variable speed motor driving the pump, varies from the minimum of at least one-sixtieth of an inch per minute to a maximum of at least one-half inch per minute.

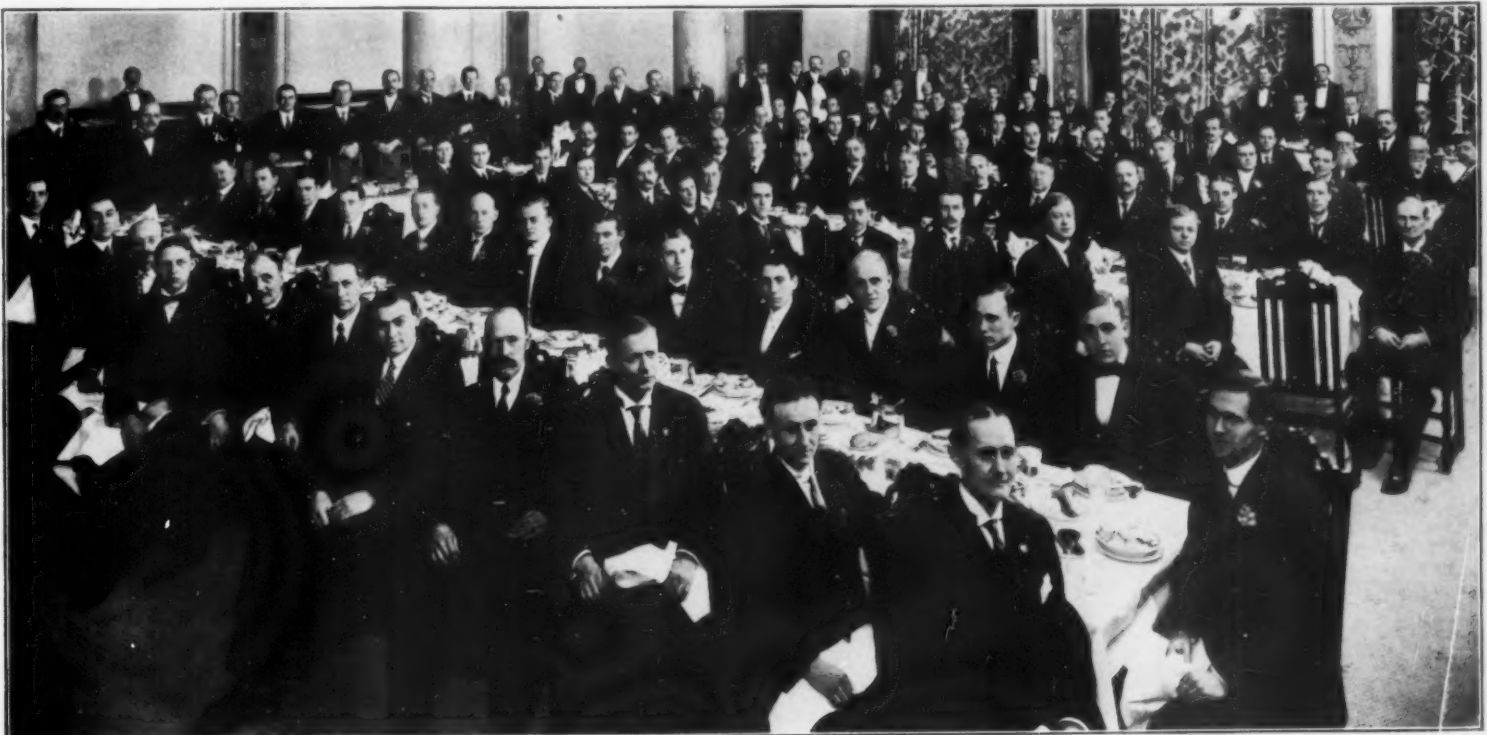
The contract provides that the machine shall have an accuracy of at least one-third of 1 per cent for any load over 100,000 pounds up to the capacity of the machine.

Some idea of the size of the machine may be obtained from a statement of the weight of its principal parts. The castings for the base and the top head weigh approximately 50,000 pounds each. Each main screw will weigh over 40,000 pounds. The lower platform weighing about 25,000 pounds and the main cylinder 16,000 pounds. The top of the machine will be about 70 feet above the top of the floor, and the concrete foundation upon which the machine rests will be about eight feet below the floor line.

[These details give some idea of the thoroughness of the equipment that the geological survey is providing for the testing of structural materials. The compression test of large members has always been largely a matter of calculation based upon the established values of small units.—Ed.]

Illinois Engineers' Meeting.

The annual convention of the Illinois Society of Engineers and Surveyors was held in Chicago, January 27, 28 and 29. This was one of the most enjoy-



ILLINOIS SOCIETY OF ENGINEERS AND SURVEYORS BANQUET AT ILLINOIS ATHLETIC CLUB.

able and interesting meetings ever held by this society and the members who attended were most liberal in their praise of the entertainment committee.

On the evening of the 28th the company repaired to the Illinois Athletic Club, where the evening's session was opened by the reading of a paper, entitled "The Illinois Deep Waterway," illustrated by stereopticon views. Following this paper a general discussion of the subject was enjoyed by all. After this, the members were favored by a vaudeville entertainment and were then treated to a jolly feed in the grill room. Rudolph Link, manager Keuffel and Eiser followed with a most interesting paper on "Recent Brick Paving in Chicago."

The election of officers found Mr. Hittle, Lehigh University, '87, and at present assistant engineer of the County of Cook, elected president, who made a very neat address apropos of the occasion. Mr. Hittle in discussing the affairs of the club, said: "The Illinois Club of Engineers is limited, covering a field that is not covered by the American Society of Engineers. The aim and purpose of our engineering club is to bring together all of the engineers, young and old, who are operating daily under the engineering laws of the state of Illinois. In our meetings we attempt to obtain a general exchange of views from the men who are, day in and day out, running up against the good, hard, practical jobs which involve only enough theory to make possible the applying of a little book knowledge. We are particularly desirous to have the young engineers of the state join us, for by rubbing elbows with the older men, who have had a wealth of experience, they are able to get a schooling which they are unable to obtain at a university or college. The society is now proposing a law to license the surveyors in Illinois and is about ready to have the bill presented to the legislature and we have every hope of success. We again urge every young engineer to join us in our work."

Cairo, Ill., will have the honor of having this convention in 1910.

LOUISVILLE'S NEW SEWERAGE SYSTEM.

(Continued from Page 3.)

also from E. T. Slider, of New Albany, Ind. Some of the sand used has come directly from the trench itself, while the Ohio River Sand Company furnished the remainder. It was dug at their island a few miles above Louisville.

Smith mixers have been used on the concrete work exclusively, with the exception of one Chicago mixer that has been used on Section C. There are five Smiths in operation at present, and it is understood that the contractors for Section E will also use the Smith type of mixer.

Loose bar reinforcement is being used throughout on the big concrete tube. The types which have been placed thus far are as follows: On Section A, cold twisted square; Section B, Johnson corrugated; Section C, Maxwell; Sections D and E, Johnson corrugated, new style. In the adoption of the various types, cost and other considerations have been balanced in reaching a decision. Bids have been accepted on both plain and deformed bars, and after contracts have been signed the style most satisfactory to the engineers has been selected. As will be noted, however, practically all the reinforcement has been with the deformed bars.

A very small amount of brick work was done on the sewer. The final section, emptying into the river, is only 10 feet 7 inches in diameter, owing to the greater fall provided, and this fall, with its possibilities in the direction of erosion, made necessary a lining of vitrified brick for the last half-mile. The sewer was constructed in the usual manner, and then the invert was lined with vitrified brick.

The Ferro-Concrete Construction Company was the general contractor for that section, and they employed no sub-contractor for the brick work, but put it down directly. The brick were obtained mainly from the Kentucky Vitrified Brick Company, of Louisville, with a few Hoosier brick from New Albany, Ind. The brick used was an ordinary paving block, but it was selected, being the hardest it was possible to get. Most of those used in the sewer would probably, owing to brittleness, have been too hard for use on the streets.

The bricks used were submitted to an absorption test, and it was required that they absorb not more than 3 per cent of their total weight of water. It is believed that the brick lining for the invert will protect the concrete perfectly.

The specifications for work on the sewer required that three cubic yards of concrete per lineal foot be laid down. The cost for this varied from \$7 to \$8 per cubic yard, with the concrete in place. The competition for the contracts has been unusually keen, as many as ten or a dozen bidding on some of the work, and this has had a tendency to reduce the cost below the estimate in some cases.



EIGHTEEN-FOOT CROSS SECTION.

The Blaw steel forms are being used for molding the concrete work on Sections B and C, where Charles F. Fitch & Co. are doing the work. Mr. Fitch is extremely enthusiastic over them, believing that they not only save time and make a prettier finish, but that they are a more permanent form, and are not affected by exposure to the weather. Wooden forms are in use on the other sections.

Owing to the depth of the excavation necessary, the concrete, after being mixed, has to be carried a considerable distance from the hopper to the forms. The mixer is on a car moving on the railroad along the site of the work, and the mix is run from the hopper into sluices, a series of which run into the excavation and connect with the forms. Gravity does the work, and the concrete moves so quickly and with so little difficulty that it is believed that it could be carried 150 feet if necessary.

The sewer is built in three sections, each of which are built separately: the invert, the side walls and the arch. As stated above, it is roughly in the form of a horseshoe, with the greatest thickness at the juncture of the side walls and the invert.

An interesting feature of the construction has been the little effect which cold weather has had on it. Owing to the fact that the trench is so deep the temperature is almost equable, and this has enabled work to be carried forward all winter with almost no delay. For the purpose of keeping materials, which are on the surface, in condition for being mixed, some of the contractors are using extra boilers to heat the water, sand and gravel, and keep a steam hose working on it all the time.

The manholes, which are of more than ordinary importance, since they are unusually high, are constructed of concrete, with iron ladders. They are placed at the intersections of future streets, the sewer at its largest part running through a district which contains few residences.

The excavation presents occasionally interesting features. On Section B the earth has been handled by a cableway system, by which it is taken from the



COFFERDAM AND PILE DRIVER AT THE SOUTHERN OUTFALL.

trench which is being opened and deposited at the point which is being closed. This requires but one handling of the earth and saves time and labor. Steam derricks of the Potter system and the trolley method are also being employed.

Chief Engineer Joshua B. F. Breed, who was extremely painstaking in providing information for this article, said regarding the sewer that he considered it a fine type; that he believed the reinforced concrete, though cheaper than vitrified brick, will answer all purposes, and that it has interest from a general standpoint owing to its immensity. Taking all its dimensions into consideration, he believes that it is the largest in the South. The sewer will be ready for use as a whole early in 1912, he said.

Charles F. Fitch, one of the contractors who is placing the concrete, conducted a representative of ROCK PRODUCTS over his section of the work and explained its various features. He also descended with him into a finished piece of the tube, which is 1,600 feet long. It presents a magnificent appearance, and the Blaw forms have left a uniformly smooth surface.

"I consider the southern outfall," he said, "far ahead of anything else in the country. No brick at all, except a little at the mouth, has been used in its construction. The work is progressing rapidly, and I think the earliest sections will be finished by next summer."

Mr. Fitch has been in the concrete business for fourteen years, and considers this the most important piece of work he has ever handled.

The Louisville Sewerage Commission was organized in 1906 and now has the following members, appointed by the mayor: Peter Lee Atherton, chairman; Oscar Fenley, W. C. Nones and Alfred Selligman. Charles P. Weaver is secretary and treasurer. Joshua B. F. Breed is chief engineer and Harrison P. Eddy, of Worcester, Mass., has the position of consulting engineer. J. H. Kimball is designing engineer and is in charge of the draughting room, and F. C. Williams is resident engineer on the southern outfall. H. P. Wires is in charge of the western division and H. S. Morse of the eastern division.

Hollow Concrete Posts.

MADISON, Wis., Jan. 31.—Prof. C. A. Oeock, of the agricultural department of the State University, has written the following description of how to make hollow concrete fence posts:

The mixture used is the ordinary 1:2:4, which includes one part cement, two parts sand and four parts stone, none of which is larger than will pass through a three-quarter-inch screen. The ordinary forms are used, which are four inches wide, four inches deep and seven feet long. For reinforcement a one-quarter inch round steel rod is placed in each corner the distance of its own diameter from the outside of the post. Each end of this rod is bent at right angles for about two inches to anchor it firmly at the ends.

In making the hollow posts, a two-inch core composed of four pieces of wood is necessary. A central piece of wood one inch square is surrounded by four flat pieces rounded on the outer side until they form the round core. When the post is finished, the central square piece of the core is withdrawn, which allows the four other pieces to be easily removed. To use this core, it is necessary to have end gates for the mold with two-inch holes in them, through which the core can be drawn.

For attaching the fencing to the post, the longest galvanized staples should be put in at suitable distances at one side while the concrete is soft after the points of the staples have been spread to secure them firmly in the concrete. To fasten the fence to these staples short pieces of No. 12 or 14 wire may be used. The hollow reinforced concrete post, although requiring a little additional labor, saves enough concrete to offset this extra work, and at the same time is lighter to handle and is practically as strong as a solid post.

Report Successful Meeting.

The Hudson Hydraulic Stone Company, Hudson, Wis., recently elected these directors: H. C. North, Edward Carlson, Edward Kircher, John Sandquist and G. R. Howitt. The directors elected H. L. North president, Edward Kircher vice-president, George R. Howitt secretary and John Sandquist, treasurer. They reported a successful year and a dividend was declared.

Elect New Officers.

The annual meeting of the stockholders of the Altoona Concrete Construction and Supply Company was held in the office of the company, 1722 Margaret Avenue, Altoona, Pa., Feb. 9. The following officers were elected: President, Frank Brandt; vice-president, W. H. Morris; treasurer, Grant Yon; secretary, T. A. Kelly, and the following board of directors: Frank Brandt, W. H. Morris, Grant Yon, T. A. Kelly.

To Manufacture Concrete Blocks.

GIRARD, O., Feb. 5.—Geo. J. Hecker is having a plant for the manufacture of concrete building block of all description erected on property in Howard Street.

QUARRIES

OHIO STATE STONE CLUB.

Call for the Third Annual Convention Promises by an Attractive Programme to Make a New Record.

The third annual meeting of the Ohio State Stone Club will be held at the Southern Hotel, Columbus, O., March 2 and 3.

The aims and purposes of this club are for the discussion of topics of common interest, for the cultivation of closer personal acquaintance, for mutual protection, for maintenance of harmonious relations with each other, and for the upbuilding and elevating of quarry business in general.

The following attractive program has been prepared and the meeting promises to be a most instructive one for all who attend. Allen Patterson, of Lima, O., is president and S. M. Hall, of Bucyrus, O., secretary-treasurer, and it is to their untiring efforts that much of the success of this organization is due.

Program.

TUESDAY, MARCH 2, 10 A. M.

Music—Quartet.
Address of Welcome—Hon. Charles A. Bond, mayor of Columbus.

Response—Allen Patterson, president.
Reception of members and visitors at headquarters.

ORDER OF BUSINESS.

Roll call of members.
Reading minutes of previous meeting.
Report of secretary-treasurer.
Unfinished business.
Reports of committees.
Adjournment for lunch.
Afternoon Session—Meeting called to order at 1:30.
Discussion—Marketing stone by the ton.
"Uniform Specifications for Crushed Stone for Macadam"—C. R. Callahan.

"The Quarryman of the Hour and Minute"—J. H. Crawford.

Suggestions requiring thought and discussion.
"Systematic Basis of Conducting Quarry Business."
"Items Entering Into Cost of Production"—Open to discussion.

Charles L. Johnson, of the Castalia Portland Cement Company. Subject, "Use of Cement in Construction of Subways and Aqueducts in Connection With Road Building."

An evening session will be held if found necessary.

WEDNESDAY, MARCH 3.

Meeting called to order at 9:30 a. m.
Representatives of machinery and supply houses will at this time be given an opportunity to present their propositions.

"Liquid Asphalt as Preserver and Builder of Roads"—Representative of Indian Refining Company, Cincinnati, Ohio.

Recess of fifteen minutes.
General discussion of house bill No. 77, passed March 29, 1906.

Election of officers.
Appointment of standing committees.
Before final adjournment our worthy president has a surprise to spring. Remain and hear it.

The following letter has been sent out by the club to all members:

"The enclosed invitation and program are, in themselves, explanatory, and we shall endeavor to make this the most interesting meeting yet held. We will have with us James C. Wonders, state highway commissioner; M. M. Maxwell, of the Good Roads Association of Ohio; Fred K. Irvine, editor of ROCK PRODUCTS; J. W. McCord, secretary Ohio Shippers' Association; Charles L. Johnson, of Sandusky, and a number of other prominent gentlemen who will favor us with addresses.

"There will be an open discussion in regard to uniform specifications for crushed stone for road building, which will be interesting, together with matters of like importance. It is our desire to demonstrate at this meeting the appreciation of the existence of this club, which has had far-reaching influence and has brought about most flattering results.

"In consideration of this encouragement, which refers to the promotion and cultivation of good fellowship, the upbuilding of your business and elevating it to a higher plane, it would indicate that it behooves you to be present, and come prepared to assist in binding the ties of the club more thoroughly."

S. M. Hall, secretary of the Ohio State Stone Club, Bucyrus, O., writes us under date of January 23:

"The crushing plants in this part of the state were taxed to their full capacity during the past season, preparing crushed stone for public road improvements.

"It is generally conceded that all contracts were completed, which was principally due to the favorable conditions of the weather.

"The demand for stone entering into concrete construction fell short of previous years, which is attributed to the depression of the times.

"Modern and extensive improvements for the handling of crushed stone has been installed in many plants, thereby enabling the producers to place a larger supply upon the market than heretofore.

"The Brokensword Stone Company, of Bucyrus, O., installed a No. 5 Gates style 'K' plant in addition to their former plants, thereby enabling them to increase their output very considerably.

"If nothing unforeseen occurs, the outlook is favorable for the coming season, which will give opportunity to stone producers to get busy."

To Have Educational Campaign.

The Crushed Stone Association of Illinois, which is composed of the leading crusher men in the state, held its annual meeting at Springfield, at the St. Nichols Hotel, on January 19. The annual election resulted with the following officers being chosen for the ensuing year: President, H. C. Barnard, East St. Louis, Ill.; first vice-president, Jas. B. Miller, Anna, Ill.; second vice-president, Henry Watson, Alton, Ill.; secretary, Walter C. McLaughlin, Kankakee, Ill.; treasurer, John L. Eldridge, Carrollton, Ill.

A three hours' session was held in which the good roads proposition was thoroughly gone over from the standpoint of the contractor who builds the roads. Every branch of the crusher business, including machinery and equipment, the condition of the quarries and the outlook for business in 1909, were touched upon in a heart to heart love feast around an informal dinner table.

A committee was appointed to act and empowered with funds for the purpose of conducting an educational campaign for the promotion of good roads. The committee was instructed to prepare suitable literature and take measures to have it reach the right people in those sections in the state of Illinois where road improvements are now in progress, or about to begin.

Several new members were received into the association, which is now stronger and more harmonious than it ever has been. They departed with the feeling that it had been a profitable trip to the annual meeting.

Fluxing Stone as a Starter.

It was interesting data when the largest consumer of flux in the United States was called before the Ways and Means Committee of Congress to tell them what would be best for the iron industry in the correction of the Dingley bill.

E. H. Gary, who is chairman of the board of directors of the United States Steel Corporation, the largest operators in the world, said:

"We manufacture 11,000,000 tons of pig iron annually. We pay 40 cents a ton for fluxing and spend \$5,300,000 a year for delivery to our plants of this important material in the operating of furnaces.

If 40 per cent represents the expenditure by this one corporation for flux, \$11,000,000 is the money spent to quarrymen for getting out fluxing stone for the furnace trade, which means crushed stone operators, although in some cases the furnace companies operate their own crushing plants.

With this trade as a starter, the crushed stone operator should have a good opinion of himself, maintaining his values along the lines to which the importance of his industry entitles him.

There have been times in the history of pig iron-making when it was absolutely impossible to make any money out of the fluxing business, owing to the low price paid for the crushed material on the ear. We remember well when 25 cents to 28 cents was all we could get out of it, and this seems to the uninitiated a very low price. It is. In fact, it is about 10 cents less than it costs to produce the material, even if the Lord did bunch this limestone apparently for the benefit of the quarryman and the steel operator.

Of course, in making iron, as well as any product, where it runs up into millions, it is natural for the purchaser to endeavor to buy raw material as cheaply as possible, but being a necessary article in making pig iron, 40 cents is certainly a drop in the bucket to a \$15 cost for the manufactured pig and, therefore, our dear friends, the corporation, might open up their hearts a little bit and raise the duty. It is up to them. This would be a good time to make a trade. Let the crushed stone men use their influence at Washington with the Ways and Means Committee, providing that they shall agree to pay 50 cents or 60 cents for fluxing. You know legislation goes by compromise and it is up to the crushed stone men who get out fluxing to "get busy."

To Purchase Rock Crusher.

MENOMINEE, MICH., Feb. 4.—At the annual meeting of the county road commissioners and the county road committees held Feb. 8, it was decided to further the work of bettering roads by the purchase of a rock crusher costing \$2,500, six dump wagons and a number of wheel scrapers.

At the last session of the county board the supervisors passed favorably on the purchase of a rock crusher, several of the members declaring that at times it was impossible to secure the needed supply of crushed stone while the road improving was in progress.

Those in attendance at the meeting were Supervisors W. J. Oberdorffer, A. F. McGillis, T. C. Christensen, Peter Garrigan, George H. Haggerson, Louis Nadeau and E. P. Radford, the latter a member of both bodies.

Marked by the presence of State Roads Commissioner H. S. Earle and Commissioner Roberts, the second good roads convention that has ever taken place in this city was held at the city hall yesterday afternoon. Sixteen township road commissioners were in attendance and interesting addresses were made by Messrs. Earle and Roberts.

Both answered a number of questions for the commissioners and a general discussion of the latest methods used in repairing old roads was one of the topics which the visiting commissioners gave their views upon.

Tracks to Quarry.

Workmen are busy connecting the tracks to the new stone quarries east of Logansport, Ind., with the Wabash railroad, and work in the quarries commenced recently. About twelve hundred feet of double track will be laid.

Stone Company Elects Officers.

The Lake Shore Stone Company, Milwaukee, Wis., has elected the following officers: G. A. West, re-elected president; C. T. Merrill, vice-president; Louis Quarles, secretary; A. J. Blair, treasurer and manager.

Acquires More Property.

The American Crushed Stone Company, Chicago, Ill., has acquired from William Kissak, its president, property abutting on the north branch of the river, with a frontage of 275 feet in Webster Avenue, 203 feet on the river and 440 feet in Dominick Street, also 275 by 100 feet in Dominick Street, 160 feet northwest of Webster Avenue, for \$52,000.

Resume Operations.

The Wagner Stone Company, of Sandusky, O., has taken a lease on the property of the Ryan Stone Company, east of Castalia, and resumed operations therein recently, giving employment to a large force of men.

The Marengo Stone Company has been incorporated at Marengo, Ind., with a capital stock of \$20,000, to operate a stone quarry in Crawford county, by George S. Balthis, Simon Fromholtz, Lee Leighheart and J. Edward Kent.

The Rock Creek Crushed Stone and Sand Company has been incorporated at Oklahoma City, Okla., with a capital stock of \$5,000 by C. C. Buxton, D. H. Boyd and W. H. Wyckoff.

The Capital Stone Company has been incorporated at Charleston, W. Va., with a capital stock of \$25,000, by G. T. Thayer, George S. Couch, J. D. Baines, E. A. Reid and George S. Couch, Jr., all of Charleston.

The West Side Quarries Company has been incorporated at Kankakee, Ill., to operate a stone quarry. The capital stock is \$8,000 and the incorporators are T. A. Kerr, Clyde F. Dyer and W. H. Dyer.

The Hale-Brunton Quarries Company has been incorporated at Denver, Colo., with a capital stock of \$50,000 by Arthur Hale, Thomas T. Brunton and William P. Robbe.

The Vincent Stone Company has been incorporated at Albion, N. Y., with a capital stock of \$40,000. The newly elected officers are: President, E. F. Fancher; vice-president, F. C. Lauer; secretary and treasurer, Eva Vincent; superintendent and general manager, Edward Vincent.

The Marblehead Stone and Transportation Company has been incorporated at Sandusky, O., with a capital stock of \$300,000, by J. G. Butler, Jr., R. C. Steese, H. H. Stambaugh, John Stambaugh and C. M. Crook.



Plaster Working Agreement in New York.

Benjamin J. Carr, Jr., secretary of the International Employing Plasterers' Association, No. 1, 67 West One Hundred and Twenty-fifth Street, New York City, reports under date of February 18:

"A committee from this association was appointed to present the charter to our branch No. 2, which they did on February 4, to a very enthusiastic audience of about fifty members. So you can see what Brooklyn is doing in the way of organization.

"We have a committee meeting a committee from the Journeymen's Local No. 43 relative to forming a working agreement between the bosses and the journeymen for our mutual benefit.

"We received a communication from the master plasterers in Buffalo through seeing the results we have accomplished in Rock Products, and they have also formed an association there.

"We would like to see the master plasterers all over the country get interested as well."

The Improvident Plaster Man.

After the trials and tribulations of 1908 in the plaster business, and knowing that the sun was shining more clearly than for eighteen months, the gypsum and plaster men have been looking around for a modern Moses who will help them get back to a normal basis, where at least they will not be selling practically 60 per cent of their trade at a loss. This kind of tactics does not benefit anybody, not even the retailer who has not made it a practice in years past to speculate in plaster goods, as in some other lines of building materials. Unfortunately there are some ships plying the plaster ocean that have not a rudder; they drift about as if their engines won't work, and even lack a jury sail.

Every instance of the pernicious habit of contracting illustrates the lack of intelligent marketing of gypsum, and also the lack of cooperation of manufacturers to that end. There is hope that the revival of business will bring about a steadying of the warriors in the line, and perhaps the plaster men might get down to a common sense business basis once more.

One has a dream possibly of just coming back to his senses and getting a little profit maybe out of 1909 business, but alas in one section of this country that is impossible, for a manufacturer without apparent provocation went out and contracted for practically the output of his mill at \$2 less than the lowest selling price of 1907. Anybody knows what that means. It means a loss to that institution.

There certainly was not less than \$2,000,000 lost in the plaster game in 1908, notwithstanding the fact that some manufacturers made some money the first half of the season, and if there are many more contracts made like the one in question it means the consumers will get a lot of cheap walls this year out of high-class gypsum, and there will be another little contribution to the experience fund of \$2,000,000,

just because some men in the business will not have confidence in the other fellow, and insists on buying trade without regard to friend or foe.

If any one except the consumer was gainer Rock Products would not harp on this unfortunate condition in the plaster business, but there is absolutely no sense in the present situation, and the sooner all manufacturers of plaster realize this and look at themselves in the glass long enough to discover that they are not absolutely perfect and then look at the other fellow and observe his good points the easier it will be to get to a market which will mean some little profit, although it may only just prevent a loss.

Of course, one of the reasons for the demoralization of business has been the fact that there is too much producing capacity. Practically all are agreed on that point, but how under heaven any man can afford to tie himself up in a contract before making the goods less than cost in 1909 is a puzzle to everybody.

To Build Warehouses.

KEENE, OKLA., Jan. 23.—At the annual meeting of the stockholders of the Southwestern Cement Plaster Company the following officers were elected for the ensuing year: Directors, A. F. Fisher, J. C. Fisher, C. F. Dyer, J. R. Lewis, E. E. Cressler. Officers, J. C. Fisher, president; C. F. Dyer, vice-president; Charles Clark, secretary; J. C. Fisher, treasurer.

It was decided to manufacture 50,000 tons of plaster during the year 1909, and to build large warehouses, 50x300 feet, in centrally-located points.

The F. D. Cummer & Son Company, of Cleveland, Ohio, state that they have just closed a contract with the Niagara Gypsum Company, of Oakfield, N. Y., for one of their Cummer continuous gypsum calcining processes. The Niagara Gypsum Company has been using a Cummer process, capacity 300 tons per day of twenty-four hours, for the past year, and when the new process is installed it will bring the capacity of the plant up to 600 tons per day of twenty-four hours. This speaks well for the process.

New Officers Elected.

The election of officers of the American Gypsum Company, Port Clinton, O., last month shows the following: J. H. McCrady, Pittsburg, Pa., president; D. J. Kennedy, Pittsburg, Pa., vice-president; J. M. Homer, secretary; J. B. Davis, treasurer; F. J. Griswold, Port Clinton, O., general manager.

The company experienced a very good business last year, having an increased volume over the previous year. This is one of the best evidences of the quality of goods made in a modernized manufacturing plant, which is satisfaction to the promoters and directors.

Elect New Officers.

At the annual meeting of the American Hard Wall Plaster Company, Utica, N. Y., February 16, Thomas R. Proctor, Joseph R. Swan, George T. Weaver and J. Linn Hughes were elected directors; Thomas R. Proctor, president; J. R. Swan, vice-president; George F. Weaver, treasurer; J. Linn Hughes, secretary and manager; E. E. Adams, assistant treasurer.

Oklahoma Gypsum Deposits.

The gypsum deposits of Oklahoma are probably the largest of any state in the Union. Various estimates

have been made as to the amount of available stone for commercial purposes, but only a vague idea can be obtained. State Geologist Charles N. Gould, in a recent report, says that in the western part of the state there is 133,000,000,000 tons of gypsum rock.

The largest amount of gypsum rock is in the deposits which outcrop in Blaine County, the lower extremity being about eight miles northwest of Watonga. There is another deposit in the western part of the state which is not quite so large. The Blaine formation is on what is known as the Enid keels. There is no other known gypsum deposits east of this formation until those of Virginia are reached.

The Blaine formation lies in a deposit which runs from the southeast to the northwest and terminates at Medicine Lodge, Kan. The outcrops do not make an appearance south of Watonga, but there are gypsum beds at Quarah and Acme, Texas. The theory advanced is that the gypsum rock dips to an enormous depth. There is an isolated gypsite bed at El Dorado, Okla., the deposit of which is not accounted for. The beds of dirt in Texas are being worked and there are two of the largest mills in the country at these places. The gypsite here is about eighteen feet deep.

On the Enid keels the rock underlies the keel, which is a red loam or clay. This varies in depth and in some places has been completely washed away.

In the centuries of time, erosion acting on the earth's surface has worn this formation until now the plain has been worn away, and the harder rock rises in the form of hills, while the softer has been washed out and canyons have been formed.

The southern extremity of this formation, or where the ledge dips, is about 200 feet below the city of Watonga. Here there are two quarries, those of the American Cement Plaster Company and the Monarch Plaster Company.

The analysis of the rock at this place is: Lime, CAO33.10; sulphur, SO₄44.51; water, H₂O21.19; magnesia, .36; iron and aluminum, .20; insoluble, .30. This is the Medicine Lodge ledge and that which is being worked.

At Alva the rock becomes more crystalline and has the appearance of mica.

The ledges of stone beneath the keel have been divided into three classes. The Shimer ledge lies on top and varies in thickness. Beneath this is the Medicine Lodge ledge, which is the rock used by most of the mills in their manufacture of plaster. This ledge varies in thickness from ten to eighteen feet. Throughout this stratification is found pockets of anhydrite, which is a hard rock and thrown aside by the quarrymen as spalls. These are afterwards picked up and crushed for macadam purposes. On some of the hills, knolls or knobs stand out. These are the Shimer ledge of rock and on account of the hardness wear away more slowly.

Beneath the Medicine Lodge ledge lies what is known as the Ferguson ledge. This varies in thickness from eighteen inches to two feet. It is not used, but thrown aside.

In the Roman Nose Canyon the hills are more numerous and the rock there is separated by a stratification of the anhydrite about two feet thick and very white in color. All through the hills the wearing away has left benches in some places thirty feet wide and a clear space to quarry.

The quarrying facilities are excellent as there is but little stripping to be done, and the stone is economically delivered to the mills. The Roman Nose Gypsum Company, at Bickford, will shortly install an ariel cableway to deliver rock to their mill.

On the property of the Monarch Plaster Company and the American Cement Plaster Company are beds of gypsite which are about ten feet deep. These mills use the dirt for their wall plaster, though the finer grades are made from the rock, as are the molding and dental plasters.

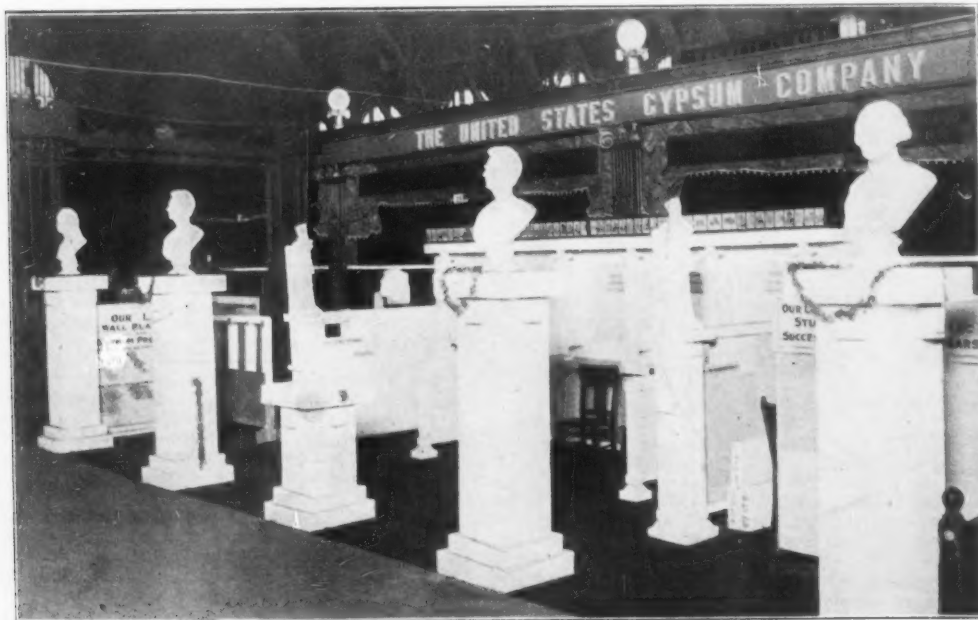
There are twelve companies operating in the southwestern territory, and they all have well equipped mills, with a capacity to amply supply the needs of this territory in all kinds of plaster.

Hold Annual Meeting.

RICHFIELD, UTAH., Feb. 2.—The annual meeting of the Jumbo Plaster and Cement Company was held in Richfield February 1. About fifty of the stockholders of the company were present and over 600,000 of the 1,000,000 shares of the capital stock was represented.

The annual financial report of the company was read and was received very favorably by the stockholders. It showed that \$33,098.68 had been expended during the past year for the construction of the mill, canal and other improvements which the company has made. A balance of \$4,073.75 is still on hand.

The officers for the ensuing year were elected as follows: John F. Chidester, president; J. H. Erickson, vice-president; N. C. Poulsen, secretary and treasurer, and these, together with H. N. Hayes, James Christiansen, Ferdinand Ericksen, R. W. Cevy and Lorenzo Nielson, form the board of directors.



ATTRACTIVE EXHIBIT AT CHICAGO CEMENT SHOW.

CEMENT

Just Waiting for the Season.

The cement situation today is a waiting game. It resembles the deck of a battleship cleared and ready for action. The officers on the bridge have carefully scanned the weather, thoughtfully planned the battle of deliveries and values, and all are agreed upon the general points of the coming action. On the gun deck below each of the sales managers is adjusting the range of his gun and the boys of the firing line are impatient for the word of command to begin the engagement. Never was the gallant ship better commanded or better manned. Organization envelopes the atmosphere and the contentment of harmony prevails. There can be but one result. Given a little patience while the weather works around to spring, with prompt action on the part of a few of the big things, we will see a proud showing for every man on board.

Rises With the Grass.

President Edward M. Hagar, of the Universal Portland Cement Company, and also of the Cement Products' Exhibition Company, which has just achieved a tremendous success with the Second Annual Cement Show, in his pleasant way remarked: "The price of cement comes up with the grass in the spring. Every inch of grass stands for 5 cents in the price of cement." (That is, sometimes.)

Made Fine Attraction.

The exhibit of the American Association of Portland Cement Manufacturers at the Chicago Cement Show was one of the leading and most valuable attractions. The well-selected models of concrete construction shown by stereopticon were appreciated by the people interested in building propositions. Secretary Percy H. Wilson, in charge of the exhibit, took a personal interest in the attention of the throngs. It was well worth while.

New Proportioning and Bagging Machine.

The accompanying illustration shows the eight Richardson automatic cement weighers and baggers at the Crowell Portland Cement Company's plant in California. It is one of the number where Richardson scales are appreciated as the only accurate method of weighing cement. Each scale has a capacity of five to six bags per minute, all that is necessary being to take the empty bag and place it on the spout, where it is filled, and a conveyor at the rear of the scales takes away the filled sack to the car or to storage.

The Richardson Scale Company, of New York and Chicago, were represented at the Chicago Cement Show by Mr. Richardson, Mr. Fordman and Mr. Spear. Mr. Richardson reported very good business during the show, stating that a number of cement manufacturers were greatly interested in their combination scales for weighing the raw products and scales to weigh and sack cement. Mr. Richardson also reported that their orders for January and February, 1909, show already an advance of 50 per cent over similar months of 1908. They have given good satisfaction in weighing the combination of clinker and gypsum and have continued a success in scales for weighing lime, hydrated lime and gypsum. For the sand-lime brick proposition they have a combination which is superior to the measuring system.

Cement Annual Election of Officers.

BALTIMORE, MD., Feb. 16.—At the annual meeting of the stockholders of the Maryland Portland Cement Company, Baltimore, Md., held February 16, the following officers were elected to serve for the ensuing year: President and treasurer, Loring A. Cover; vice-president, William G. Nolting; secretary and sales manager, Harry B. Warner; directors—De Courey W. Thom, chairman; Douglass H. Gordon, Richard H. Edmunds, W. Champlin Robinson, Archibald H. Taylor, Loring A. Cover, William G. Nolting, Richard N. Jackson.

To Work in New Field.

C. P. Jameson, of Easton, Pa., after a continuous service of six years as general manager of the Northampton Portland Cement Company, severed his connection on February 1 to take the general managership of the Middle-West Portland Cement Company, at Iola, Kas., where he will have full supervision of the erection of a modern three-thousand barrel per day plant, the selection and installation of machinery, operation of plant and disposing of its output.

Elect Officers.

The stockholders of the Alpha Cement Company, New Village, N. J., have elected the following directors: William M. McKelvey, J. M. Lockhart, J. H. Lockhart, of Pittsburg; B. Davis, of Keyer, W. Va.; J. B. Wight, of Montclair; A. F. Gerstell, of Newark, and C. S. Brown, of Easton, Pa. The board organized with W. McKelvey, president; H. F. Gerstell, vice-president and manager, and G. S. Brown, secretary and treasurer.

Will Resume Operations.

HUDSON, N. Y., Feb. 10.—The new stockhouse of the Alsen Portland Cement Company will be completed and ready for use about the end of the month. This will provide plenty of storage for the present output of the mill.

Cement Industry During 1908.

Edwin C. Eckel, of the United States Geological Survey, in a statement regarding conditions in the American Portland cement industry in the year 1908 says, that although detailed figures are not yet obtainable, an estimate based on the information available indicates that the production of Portland cement in the United States was somewhat less than 40,000,000 barrels. The comparisons are 35,246,812 barrels in 1905, 46,463,424 barrels in 1906, 48,785,390 barrels in 1907, and 40,000,000 barrels in 1908. He says that 1909 opens with heavy stocks of cement on hand at most mills, but with good prospects for a steady, though slow, revival in the cement trade. It is unlikely that this revival will be sufficiently rapid to push mills to their capacity this year, and it is, therefore, possible that the high record for output made in 1907 will remain unbroken for another year at least. The total maximum capacity of existing plants is now about 60,000,000 barrels a year. Despite the business depression, or perhaps partly because of it, there have been a number of important technical and industrial developments in the cement industry in 1908, and others are still pending.

Will Resume Operations March 1.

ELK RAPIDS, MICH., Feb. 4.—The annual stockholders' meeting of the Elk Cement and Lime Company was held at the company's office yesterday afternoon. Officers were elected as follows: President, C. A. Whyland, Chicago; first vice-president, E. R. Sly, Bay Shore; second vice-president, M. R. Lang, Elk Rapids; secretary and treasurer and general manager, Homer

Sly, Elk Rapids; directors, C. A. Whyland, Chicago; E. R. Sly, Bay Shore; M. B. Lang, Harry Hirschberg, Homer Sly and Fitch R. Williams, Elk Rapids; S. L. Robinson, Petoskey; O. C. Atwood, Bay Shore; S. W. Lamson, Chicago.

The mill will probably begin operations for the season of 1909 by March 1, and will continue running until about the holidays, and will manufacture in the neighborhood of 300,000 barrels of cement.

Catskill Cement Company Election.

The annual meeting of the Catskill Cement Company was held at Jersey City, N. J., on Wednesday, February 4. Cement matters were discussed and officers were elected for the coming year. All the officers and directors were reelected. They are as follows: Directors, P. Gardner Coffin, J. W. Kittrell, H. C. Cowen, Robert F. Story, Fred W. Taylor, Owen C. Liebert, K. K. McLaren; president, P. Gardner Coffin; secretary and treasurer, J. W. Kittrell; superintendent, H. C. Cowen.

Change of Name.

The Pembina Portland Cement Company, Grand Forks, N. D., has changed its name to the Northern Cement and Plaster Company.

Cement Firms Join.

GLENS FALLS, N. Y., Feb. 8.—The Alpha Cement Company, of Alpha, N. J., has absorbed the Glens Falls Portland Cement Company. The Glens Falls stockholders will receive \$175 per share for their holdings. Nearly all owners of stock have sold out and the business passes out of existence as a Glens Falls concern, though the new owners will continue to operate it. The plant produces 500,000 barrels of cement a year. The Alpha company, with four plants, produces 4,000,000 barrels.

Distinguished Visitors.

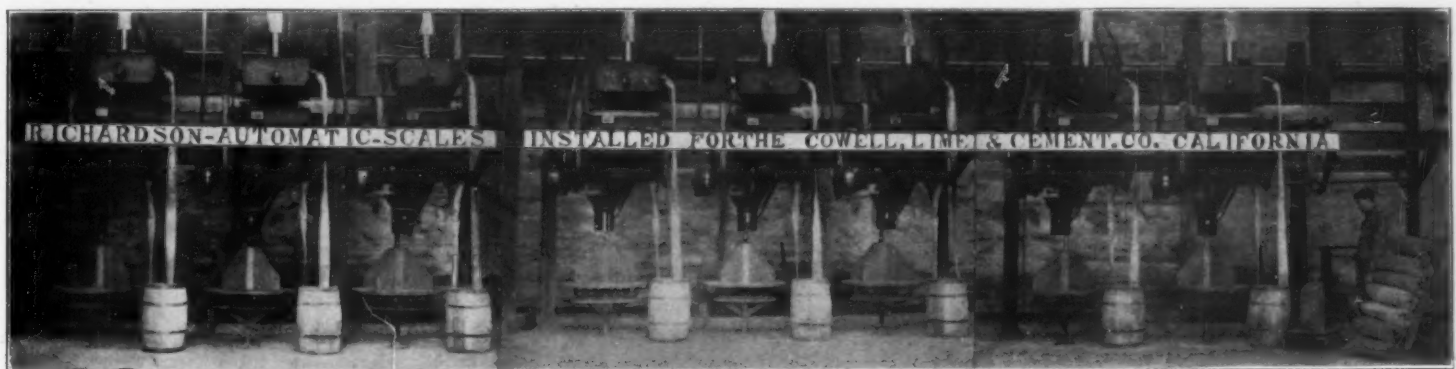
George E. Nicholson, president of the United Kansas Portland Cement Company, the Dixie Portland Cement Company, also the Iola Portland Cement Company, and W. B. Hill, president of the Ash Grove Lime and Portland Cement Company, were at the Chicago cement show. Both of these gentlemen expressed themselves as highly pleased with the healthy condition of the industry as evidenced by the great show.

Southwestern Will Operate Soon.

DALLAS, TEX., Feb. 15.—The Southwestern States Portland Cement Company, the latest of the Cowham system of mills, is rapidly nearing completion. The plant is about five miles from this city. It will have a capacity of 3,500 barrels per day. The company has 534 acres of land on which is found the Austin chalk and shale from which the cement will be made. The buildings are all fireproof structures of iron, steel and concrete. The plant will be operated by a Harvey Hill gas producer of lignite coal, the first cement plant in the country to be operated on this system. Three 1,000 unit Allis-Chalmers engines will furnish the power for the machinery. Other machinery consists of McCausland and Robins conveyors. The local manager in charge of the company is B. M. LaRue. The quarry superintendent is H. W. Green and G. I. Johnson is the superintendent of the plant.

The Paragon White Cement Company has been incorporated at New Castle, Del., with a capital stock of \$200,000. The incorporators are W. Elwood Snyder, R. F. Messinger and H. E. Clewell, Nazareth, Pa.

Rumor has it that the Atlas Portland Cement Company has acquired the control of the Hudson Portland Cement Company and will take over the plant located at Hudson, near Albany, N. Y.





NEBRASKA RETAILERS.

Big Meeting at Omaha, Where There Was Much Lining Up in Order.

OMAHA, NEB., Jan. 23.—The eighteenth annual meeting of the Nebraska Retail Lumber Dealers' Association was held in this city January 21 and 22 at the Rome Hotel.

There were about 560 registered, with sixty ladies. The subjects of shipping and demurrage were among the most important on the programme. It was decided to act in conjunction with the Iowa and Nebraska Retail Coalmen's Association on freight matters.

As is usual with meetings of this sort, a Hoo-Hoo concatenation was held, in which a class of fifty kittens had their eyes opened to the mystery of Hoo-Hoo.

The election of officers resulted in the following being chosen:

President—George W. Baldwin, Crete.
Vice-president—William Kratter, Stuart.
Secretary—Bird Critchfield, Lincoln.
Treasurer—E. S. Clarks, Gretna.
Directors for three-year term—C. A. Overstreet and George Eggleston.

THE EXHIBITS.

There were a number of exhibits of lumber as well as building materials of all kinds and things handled by the retailer of building supplies.

The Atlas Portland Cement Company had a room on the parlor floor, where they met their friends. The reception committee consisted of Thomas M. Magill, assisted by the western representatives, Walter Smith and J. W. Lewis. They passed out Atlas literature, "Concrete on the Farm," "Concrete Cottages," and a neat little memorandum book and diary.

The Universal Portland Cement Company was represented by their Nebraska salesman, E. J. Dowdall, who made his headquarters in the room of the C. N. Dietz Lumber Company, who are the Omaha agents for Universal. However, Mr. Dowdall was busy circulating all over the place and it might be said that his headquarters were all over the hotel.

The C. N. Dietz Lumber Company had room 999, where O. W. Dunn and W. W. Carmichael handed out clips for souvenirs as well as their colored assistant who presided over the punch bowl. Besides handling Universal Portland cement this company handles Fredonia Portland cement and will handle the products of the Altoona Portland Cement Company. In plaster they handle the Granite brand of the United States Gypsum Company and the Plymouth brand of the Plymouth Gypsum Company.

The Updike Lumber and Coal Company, who are the Nebraska agents for the Kansas City brand of Portland cement, were represented by George E. Cobb, manager of the building material department. In conjunction with their exhibit they had concrete blocks and concrete posts made of Kansas City cement, which were made by the Nebraska Concrete Company.

A. Baumberger, the assistant general sales manager of the Union Sand and Building Material Company, manufacturers of the Kansas City Portland cement, was on hand for one day to meet his friends.

The C. B. Havens Company had an exhibit of the various products they represent in Nebraska, among which are Red Ring Portland cement, Utica hydraulic cement and Medusa waterproofing.

The Patrick Builders' Supply Company, of Omaha, had a space where they passed out booklets on various products, including Sackett plaster board and Ivory and Baker plaster.

The Nebraska Material Company, of Lincoln, had a large display of products. The exhibit was in charge of J. H. Allen, I. J. Weatherford, J. D. Wilkerson and L. C. Sprague. They are the Nebraska agents for Dewey Portland cement, Ozark white lime, Monarch plaster, Coffeyville (Kan.) paving brick, Lincoln (Neb.) pressed brick and drain tile, Northwestern expanded metal and the Protection corner bead.

The C. W. Hull Company, of Omaha, had a large display and had a drawing contest. The exhibit was in charge of J. Edward Kauffman, advertising manager, and M. E. Serat, general sales agent. They handle Sunflower and Indian Portland cement, Acme cement plaster, Apex cement plaster, Our Star lime,

as well as all builders' specialties. In the drawing contest the car of lime was awarded to the Paul Schminke Company, of Burr, Neb. The car of Acme plaster was won by E. J. Richey, of Plattsmouth, Neb. The car of Apex white plaster was won by S. W. Lightner, of Lynch, Neb.

Sunderland Bros. Company had a complete line of the products they sell, including Iola Portland cement, Oak Grove (Ind.) lime and Carney's Mankato cement.

The Bonner Portland Cement Company had an exhibit in charge of Mr. Smith, general sales manager.

The Southern Coal Company, who are the Nebraska agents of the United States Portland Cement Company, whose mill is at Yocomo, Kan., had an exhibit in charge of Sales Manager Yost.

Plenty of Shed Room.

The retail dealer in building materials without good shed facilities is about as bad off as the man who fell overboard and lost the boat. In discussing this matter with an old time retail lumberman who now handles all classes of building materials, H. M. Schmoldt, Beardstown, Ill., he said: "I determined when I went into the business that there was only one way to operate it, and that was to meet the needs for the sale of our particular line and create business. In order to take care of orders when we get them it was necessary to have some good place to keep the materials, and in building our new sheds concluded to provide room so as to be able to carry seventy-five cars of stuff. We built a shed 120x120 feet with a 36-foot alley with 24-foot headroom running all the way through the center under roof. This driveway we find very popular on a rainy day for our friends from the country, who drive in there and have good shelter. In bad weather we can load or unload and protect our material. The fact is we can unload ten cars at one time. We handle everything in materials, including lumber, sash, doors and blinds, Atlas cement, Fred Menke's lime, plaster from the United States Gypsum Company, Black Diamond and other roofings and keep our customers in good humor, because we can take them right into the shed and show them all the materials for any house. This shed is well lighted and having sliding doors it can be practically enclosed. We have a specially designed lime house and cement shed under the main roof covering, and carry about \$25,000 stock of materials. R. C. Jockish is general manager of the warehouse."

Solid Old Concern.

LITTLE ROCK, ARK., Feb. 18.—George A. Leiper & Co. are among the largest retailers of supplies in this city. They have two yards, one on the west side of town and the other on the east side, located on Elm Street. The warehouse has a switch track from the Iron Mountain Railroad into it. The basement of the building is even with the floor of the cars so that shipments received are carried by truck into the warehouse. This floor is also used for storage. When this is filled the material is carried on the elevator to the first floor of the building, which also has a large storage capacity. This floor is used as a loading platform for the wagons and the materials are easily trucked onto the wagons by this means. This company handles the Iola Portland Cement Company cement, the Monarch Plaster Company's Monarch brand of plaster, George R. Case & Sons' Owl brand lime, and the first of this month they added to their line Snowflake hydrate, which is manufactured by the Dittlinger Lime Company, of New Braunfels, Tex. Mr. Leiper in speaking of business conditions says that business is a little quiet in Little Rock just now, but there are several new buildings contemplated, which will require a large amount of materials. Mr. Leiper is an old-time material man. For a number of years he had a lime plant of his own near Batesville, Ark., and he also had a clay brick plant which he operated for a number of years.

A Letter from Abroad.

By Charles Weller, Somewhere Off the Coast of Portugal, January, 1909.

My Dear Rock Products:

Seated at my desk in Milwaukee, it was easy enough to promise that I would write to "Rock Products" from abroad, but I find it quite a different matter on the heaving bosom of the Atlantic, in January. As I write, this confounded ship sails up in the air with me until I begin to wonder if Peter will let me in, and then, at Charlie Warner's "psychological moment," the bottom falls out and I come down like a bag of lead, at least all but my breakfast, which I leave up in the air, and which chases me down! Unfortunately, the "Caronia" don't stay down, but immediately recommences the same old fool performance, and repeats it twenty-four hours a day, and for two weeks without a let-up, until I should feel much

more contented if the confounded thing would only go down a few thousand feet below the surface and rest quietly in the soft mud at the bottom.

To be "Rocked in the Cradle of the Deep" sounds a heap more comfortable than it feels! In fact, I feel a good deal like a "Rock Product" myself, for the only things I have been able to keep on my stomach are my hands.

The first singular thing one discovers aboard these English ships is the disappearance of the long "h" from the language. The first morning out, a rustle at my stateroom door awoke me and, looking out from my berth-curtains I saw the head of a pretty stewardess poked in at the door, and with a pretty smile and the pretty and inevitable rising inflection that all the English use, I heard: "Will you ahve some gripes, sir?" "God forbid," said I. "Why should I want gripes?" "Oh! but you'll find them very tysty sir!" said the pretty voice, and then I saw she was holding out a plateful of big, black, luscious grapes!

Later, as the barber was giving me one of those fierce and cruel English shaves, I started the conversation-ball rolling, something like this:

"What's the name of the captain?"

"McKye, sir!"

"McKye! That's a funny name! How do you spell it?"

"M-a-c-k-a-y, sir!"

"Oh, Mackay. It's Mackay, is it?"

"Yes, sir. That's what I said, sir! McKye, sir!"

Then, after the agony was over, this is what I got:

"Byremerwitcheyslesir?"

"Please say that again, and say it slow. I'm a stranger in these parts and I only speak United States."

And the barber drew himself up stiffly and said:

"Hi think, sir, you're mykin gyme of me, sir! Hi harsked, you, sir, hif you would ahrve by rum, or witch eyzle on your fyce, sir?"

And I replied: "Oh, yes, yes; I don't care for either bay rum or witch hazel—just use court plaster."

When I was in London, in 1902, I went to the office of the Brooks-Shoobridge Portland Cement Co. and asked for the oldtime New York agent, Charles J. Stevens (many of the old timers in the trade will remember him) and the clerk at the little, inhospitable wicket window said: "Mr. Stevens, sir? W'y, sir, 'e died suddenly, sir, hin South Hafrica, a twelvemonth since, come Michaelmas day, sir." Shocked as I was, I couldn't help smiling at the way he put it, and I naturally asked, "When is Michaelmas day?" And, as he answered, "hin just a fortnight, sir," I thought of trying a good old Irish bull on him, and I said: "Oh, then, if he had lived two weeks longer, he would have been dead a year. Is that it?" And the clerk said, blandly, "Yes, sir; quite right, sir," but he saw my choking condition just in time to catch himself and hastily added: "Haow, naow, naow," (oh! no, no) and then came the inevitable: "Hi think you're nykin' gyme of me, sir," and the wicket window slammed viciously shut.

Some of the conditions of the building material trades in Europe are startlingly grotesque to one accustomed to the large and broad-gauged methods of the American dealer. I remember in England passing through a small interior town and looking out of the window of the funny little baby-jumper compartment-coach (which was one of a dozen or more, pulled by a ridiculous little dinky engine, at a rattling pace, over a very much better roadbed than any we have in America), and watching a man unload a car of bulk lump-lime. The car was of five-ton capacity; had four tall wheels and a little open box, much like what is used in Pennsylvania for hard coal and called there a "Jimmy," only much smaller and with huge and foolish wheels, looming above the box top, and making it exceedingly awkward to unload contents; and what made me gasp with laughter was that in that country of incessant rains and fogs, their quick-slaking, high-carbonate lime was shipped in such dinky, open cars, covered with tarpaulin, and the drayman was unloading it in a drizzling rain. Upon asking a coal dealer in Cambridge why the English people seemed to be contented with the use of such vast numbers of silly little cars, instead of installing our huge capacity American box-cars, I received the satisfactory answer that all the dealers' traffic was adapted to this class of rolling-stock, and that our cars would be an unendurable hardship to the English trade. Great is America!

(Continued to Page 65.)

NEBRASKA MEETING.

Convention of the Nebraska Cement Users' Association Held at Lincoln is the Most Uniformly Successful Session Ever Held.

LINCOLN, NEB., Feb. 13.—The Nebraska Cement Users' Association has been holding their fourth annual convention here, beginning February 10 and ending today at noon. From every standpoint the meeting was the most successful yet held by this enterprising young association. There is something infectious about the breezy western way in which the Nebraskan does things. He does away with formalities as much as possible and gets right down to business. From a small beginning a few years ago the association has grown in prestige and importance until it must be reckoned a factor in the great promotion work being done in the industry. It has also grown in membership until it now has enrolled on its list many of the leading concrete workers in the state and before the year is up the new secretary, Peter Palmer, will have secured many more.

From an educational standpoint, the show was the best yet held and every one who attended the meetings caught the enthusiasm and left for his home a more ardent advocate and a firmer believer than ever in the great future of the concrete industry. The officers of the association are all earnest workers and they were on the job every minute looking after the welfare of the exhibitors and those in attendance on the convention. The legislative bodies of the state of Nebraska were in session in the capital at the time of the convention and they were extended an invitation which they accepted and many of them came to the show and were delighted with it.

The students attending the university were also invited and they came in a body. These young men displayed a lively interest in everything they saw and carried away enough literature to keep them busy for a month or more. The Atlas Portland Cement Company presented each student with their well known book entitled "Concrete Construction About the Home and on the Farm."

Although Richard L. Humphrey, president of the National Cement Users' Association, did not signify his intention of coming until the program was printed, so that his name did not appear, he made one of his best addresses on the opening night of the show, the full text of which appears in this report.

OPENING SESSION.

The convention was held in the large hall provided for that purpose on the fourth floor of the Lindell Hotel, which was the headquarters for the convention. The convention was called to order promptly at 7:30 o'clock Wednesday evening by President L. E. Porter, who in a few well chosen words spoke of the work which had been accomplished in the few short years the association had been in existence and of the work which was before them. He congratulated the membership on the progress which they had made during the past year and said that a part of their success was attributable to the lessons learned at the conventions. As the program was a long one he stated that he would not take up much of their time with his opening statements, as he expected to do some talking during the progress of the convention. He then introduced W. A. Selleck, president of the Commercial Club, who made an address of welcome.

ADDRESS OF WELCOME.

By W. A. SELLECK.

Mr. President and Gentlemen of the Convention: You are here representing a distinct line of industry which is of great importance to this city, to every city, to every town, and to every hamlet in the state of Nebraska. We sometimes feel as though the state of Nebraska was lacking in many of the elements of sources and resources with which our sister states are blessed. We have no great products of minerals: gold and silver have been discovered, but not to any great extent; we have no extensive coal mines; oil has never been discovered in this state, so it seems as though Nebraska has been deprived of many of those natural advantages that the surrounding states have in such great abundance. And yet I apprehend that you gentlemen are engaged in a business which will show to the people of Nebraska within the next ten years that one of the most valuable resources that any state can possibly have within its domain lies here: sand and gravel of the highest quality and in unlimited quantity.

I can well remember when it was thought that a cement sidewalk in this city was an experiment. I can remember when I first came here, there was a sidewalk along on Twelfth and "J," and Twelfth and "K"—I think a part of it is there yet—and I remember one side of it was lifted up, and it was an unsatisfactory walk. And I can remember when cement sidewalks began to be laid a little more, people pointed to that walk, and said there is an example of what you will get. That day has gone by.

I was very much pleased at what the president said—that there was no need of a poor cement sidewalk. You gentlemen who are engaged in that business have demonstrated to us that there is no need of a poor cement sidewalk. But even in the time when you and I can

look back here, we have seen the cement question take strides which we did not dream of. In the line of cement work there has been almost as much advance as there has been in the line of electricity, but in cement work you know exactly what you ought to get. So cement has gone into the homes, into the warehouses where we store our goods; it is going into our churches where we worship, and it is going to go into our school houses. It gives me extreme pleasure to welcome to the city of Lincoln a convention of men who are engaged in this industry which, to me, means as much as any other line of industry can possibly mean.

Possibly it will be of interest to you to state in a word what I, as representing the business men of this city, really represent to you. The Commercial Club of Lincoln, of seven hundred members, is tied together for one purpose, and that is for the purpose of promoting legitimate business interests in the city of Lincoln. We recognize when we are doing that that we are working hand in hand with you, and only by that way can we accomplish the objects of the Commercial Club.

When I welcome you, therefore, to Lincoln in the name of the Commercial Club, I am welcoming you for Lincoln. This city is the capital of your great state. What we have here is yours. We have the great University, which is the crowning glory of Lincoln, and of which you may well be proud. Lincoln did not make the University; to a large extent the University made Lincoln. And I wish that I might impress upon you the one thought, and that is, the state institutions which we have in Lincoln are yours, they belong to the state of Nebraska. I hope you will familiarize yourself in your spare moments from this convention with the real work that the University of Nebraska is doing. It is something that we all as citizens may feel proud of. We want you to see some of the roads that they are making out at the state farm; see some of the buildings that they are having built out there; see some of the problems that they are solving out there. It is a great pleasure to welcome you to this place. So with the other institutions located here at Lincoln, they are your institutions. Visit them so that when you go back to your homes you may be able to state how your work is being carried on.



L. E. PORTER, YORK NEB., PRESIDENT OF THE NEBRASKA CEMENT USERS' ASSOCIATION.

In welcoming you here to Lincoln, I want to say that we are glad of your companionship, which means a great deal more than cold business competition. Competition, they say, is the life of trade. That is true, but competition would not be much if there was not companionship in it. And before I leave this floor, I will say that the doors of the Commercial Club across the street are open. We don't lock our doors, and we say to you all to come in and get acquainted with us. We have in our rooms magazines and papers which you may want to see, and they are at your service, and our rooms are at your service. Come and visit us.

So it is my pleasure to welcome you to the city of Lincoln, to wish you the very best of results in this convention, and wish you prosperity in carrying on the work in which you are engaged individually and collectively, and as that shall come it means prosperity to this great and beautiful state of Nebraska. Again I welcome you. (Applause.)

President Porter: This commercial body is a live body. We are indebted to them for the accommodations of this convention. We are indebted to them for the auditorium which is for our use. They have helped on that side on which we have to have help to run an educational convention of this kind. I can say on behalf of the body of members that are here, and are to come, that we appreciate that. I know the executive board appreciates it. We have been taken care of very nicely in every respect this year, as we were last. We grew until we thought we needed the auditorium, and they gave it to us for our machinery exhibits. We are welcome to this town and the university, and I think we ought to appreciate it. I guess we are about one of one hundred conventions that are held in the city during the year.

And this Commercial Club that you have in Lincoln I guess is at the bottom of a great deal of it. So I wish to thank the president, and tell him that we as a body are very grateful to him for the courtesies extended to us.

We have a business session this evening which is very short. We will have the minutes of the last convention read.

The secretary read the minutes, and same were approved with slight correction.

The president then announced that he would postpone the naming of the committees until the next evening.

President: I will introduce to you a man who just drifted in here, and I am very glad of it for your sake, and that is the president of the National Association. He has been president for several terms, and is president for the ensuing year. Mr. Humphrey will now address you.

RICHARD L. HUMPHREY'S ADDRESS

Mr. President, and Members of the Nebraska Cement Users' Association: It has been my good fortune to attend so many of these conventions that I feel that the members of this association are really my friends, so that it becomes an additional pleasure every year that I am fortunate to be with you to talk to you. Unfortunately this year I was doubtful of being here. In fact, I told your president, notwithstanding his very eloquent plea to have me to come, that it was doubtful if I would be here. But business unexpectedly brought me in the vicinity of Lincoln, and I thought I would come over and say a few words to you.

Most of us in the cement industry work along rational and sane lines. Lines that are safe, lines that are going to help the industry advance more rapidly than it has in the past. We are making remarkable progress. The very fact that we are making progress must have some cause. That cause lies in the intrinsic merit of the material that you use. The values that are growing are from the use of the material that you have before used. And it is along the lines of the abuse of that material I want to talk.

The president of the Commercial Club very well said, that you know how to use the material, and if you use it right, the result speaks for itself. If you use it wrong, you have trouble, the trouble that affects you not only temporarily in a financial way, but which affects the industry in a way that is hard to recover from. President Porter has told you about the convention at Cleveland. My interest in attending these state organizations is perhaps to help in saying a word to those who cannot attend the national conventions, to help them in their efforts to do good work. The unfortunate trouble is that most people are trying to make a product which they can sell, and those who are in business temporarily make a product which they sell, but the customer never comes back the second time for an additional supply. And that class of men are springing up all over the country, and they occupy a brief day in the history of the industry and they pass away. But the very presence of these men hurts the men who are in the business to do real good work, and it is discouraging to the man who knows what it costs to do good work to compete with the man who is willing to do work for nothing, and most of the material that they want to give away is not fit for any other purpose. I have seen examples of all kinds of tile and block in this country, that if I had it I would be ashamed to give it away. I don't want to be understood as saying that the man who made that material made it with the idea of making it poor, but he made it poor because he didn't know. The profits in the concrete business has induced people without experience to go into it and the failures have hurt. The cement products are so good in themselves that they must succeed, because we have examples everywhere of successful structures.

We don't have to go back many years when the people were skeptical about sidewalks, and it was difficult to convince them they should put cement walks down. They would not stand for it and would meet you with all sorts of objections, and yet there is not a town of a few thousand people that doesn't have cement sidewalks today. No one pretends for a minute to say that you cannot make a good sidewalk, and they realize that poor walks are the result of very bad work. Whenever the development of cement block and tile and concrete building, and concrete structures of all kinds is realized, the time will come when the reflection will not be upon the material, but upon the men who built it. Before we reach that period we have to go through this period of education, and that is the thing that I am concerned with; that is the thing that the state and national association are concerned with—EDUCATION!

I think the greatest percentage of failures occur with structures of concrete men who use the dry mixing process. I recall not long ago a man who was mixing up a lot of material, and he was pretty careful to put the water on the mixture through an ordinary garden watering pot, putting it on very carefully. A man observing him remarked: "That water must cost you a good bit!" The fellow said: "No, I don't know as it does." "I thought you were paying \$5.00 a gallon the way you were using it," said the observer; "why don't you water that?" "Why," said the workman, "you can't put it on that way, it will hurt the material."

I realize that there is trouble of cement blocks having too much moisture. The thing to do is to make a good, durable product that is impervious to water, that will have the strength and resisting qualities of the various things that come against it, fire and water.

At Des Moines, Iowa, they were discussing the sidewalks. They said the concrete should be made so dry that it would slightly squish by repeated tamping. There is no excuse for that in the sidewalk, yet you will find that there are some people that still believe that you have got to have a dry mixture. One thing I want to drive into your minds, and that is, to make a resolve that you will make your product as wet as you possibly can make it, and I think in most cases the limitations will prevent it from being too wet. The difficulty of the drain tile is they don't stand up well. You must bear in mind that the sand and gravel as they exist in the natural state are full of air, and that you can only get density by working that air out of the mass. To get the air out of the mass you have got to mix it thoroughly, but you can do that better and more quickly if you will use plenty of water. In the wet mixture the

water goes to help to get the air out, leaving every particle of sand and stone in close contact; so that the product, if properly made, will not have, as some of the mass of concrete I have seen, 15 per cent and as high as 20 per cent of absorption, but will have less than 2 per cent. You will come to it sooner or later, and the sooner you come to it the more certain it will be a success. Take the matter of cement blocks. There are many ways of treating these wet. The idea of making a dry mixture and pounding it in to get it tight is simply a waste of energy. Tamping is a good thing, but concrete properly made does not want to be pounded into the form; it simply is to be agitated a little.

We have experimented in St. Louis, using three kinds of blocks. We tried making a dry mix. The wet mix is known as the dry mix in reinforced concrete, and the dry mix would look like a very slightly moist earth. The strength of those blocks, between the dry mix and the wet mix, covering a period up to a year, shows that the strength was more than doubled by adding a little water. And that goes to show that it is necessary to have water there. Now the principle that good workmanship makes a good product is a success. And no matter how severe the competition may be in your particular district, no matter how many men may spring into existence and offer to do the work for practically nothing, don't you for one minute slight your work. Don't you reduce your price beyond what you can do it for and make a fair profit. You may be discouraged, but keep at it, and the people will get your work and realize that it is good, and it will give you a reputation that will enable you to get more profit for your product in the end.

I know that you will say that I haven't any business to talk on that subject because I am not in the business and don't know. But it is a good, sound doctrine. I think if the cement users of this country who are doing cement work would band together and agree to charge a fair price, the industry would be infinitely better off.

Then another thing should not discourage you. You must bear in mind that you are introducing a new product; that you are going against old forms of material; that those people who are being displaced—and there are not many of them—that they are fighting you, and they are resorting to every means that they can to block the advance in the use of your product. You have got a good product if you make it well, and you need have no care for the future.

In the matter of the drainage tile, don't pay any attention to such doctrine. The premises on which such conclusions are based are false, and the condition under which a poorly made tile will fail is the same under which any poorly or badly made material will fail. Concrete stored in water gets stronger with age, increases in strength. Frost will disintegrate and break down badly made products. It will do the same with any material that has not the requisite strength to resist the action of water, thawing and freezing, and that very strength which we are talking about which is so necessary for cement products is obtained by wet mixtures using proper materials. The strength of your concrete will not be any stronger than that material you are trying to stick together. You want to use sand that is clean and free from material that destroys its strength.

Now there is another phase of the question that I want to talk to you about, and that is a frank interchange of views. Every man who goes to a convention, and no man should stay away from a convention, that is within convenient distance, should go there with the intention of being frank in interchange of views. Nothing is going to hurt the industry so much as the men who hold within themselves the knowledge which they have gained by experience. Nothing is going to do the industry more good than a frank statement of what they believe is going to be a good practice. Further than that, it means that you will have the very latest information valuable on the subject. It may stop you from practices that are bad, and it may give you ideas which may lead you to your own success. Today there should be no secret methods, and you cannot hurt your cause by being frank. You are going to help your cause by telling all the people what you know.

Now, Mr. President, I would like to say one word on the question of our national association.

Our national association of cement users is trying, on a larger plan, to do what the state organizations are trying to do. They are gathering to it men from all over the country, and they are getting men to exchange their views, and we are trying to get the correct views disseminated all over the country. We are trying to help every state organization to carry out in its local territory what we are doing on a broader scale. We want all members of the state organizations to belong to the national organization. I certainly am glad to talk here this evening, glad to take part in your deliberations for the time I am here. I want to thank you for that pleasure. (Applause.)

Following Mr. Humphrey's address, President Porter asked the members to stand up and ask any questions which they like, Mr. Humphrey to answer, saying that now was the opportunity to find out where their failures lie.

Quite a number of questions were fired at Mr. Humphrey, all of which he answered to the complete satisfaction of those present. Mr. Humphrey was not shaken from his stand regarding the wet mix and gave some further data regarding concrete tile and proportions used in making good concrete.

President Porter then introduced Orville Jackson Fee, who made a talk on cement sidewalks. Mr. Fee has been experimenting along certain lines and his paper last year was one of the best given.

CEMENT SIDEWALKS.

By Orville Jackson Fee, Superintendent Grounds, State University.

Three years ago the question was put to me, being a student in the engineering department of the University, "Are we not putting too much money in our sidewalks?" So I took it up as a study, and what I gave you last year was a report on that study, and tonight I come here to tell you that the same report is good.

Take the city specifications, which call for sidewalks to be four inches thick; that is, above the sand or cinder bed, the concrete and your surfacing, four inches. I started to do that and worked it down to one inch, and

today—this is the third winter and we have variable weather, lots of water and lots of freezing weather—today this one-inch walk is standing as good as any other. This is put where the foundation is rich black loam, and where I have no foundation laid, just on this black loam tamped, you hear it ring as you walk over it. And right there I want to thank our president, Mr. Humphrey, for bringing out the idea of the concrete block to ring like glass. It is porous, all of them made well and the same way. It is thin and it rings and it has not warped. The only one that did fall on me was made out of cinders. I used cinders from the foundation up; I used cinders and cement and there was enough effervescence in the cinders—the sulphur—to kill the cement coat, and the top inch has been blown away, but I still have the foundation, and it is good.

Following out my experiments, my faith has increased in that two-inch block. I have had the fortune of laying on the University campus something like two miles of sidewalk. All of that is made two inches thick. It is made of chips and sand with the proportion of 1 to 2. The sod was skimmed off. I tamped everything with an eight-pound tamp. The contractor wanted to roll it, but when he did that he had to give it three hundred pounds to the inch to equal the tamp. Where we filled we were quite sure that there wasn't going to be any settling, and this is the first winter, but in all of that walk none of it has warped or cracked.

I found my contractor didn't believe me, and he put on the edge three inches instead of two. But we have a true block of equal consistency clear through, and it is going to give and take with the weather, and there is no warping or cracking to it. With the workmanship and with the materials that we have, we are going to get results and use lots of it. This is the essence of the whole experiment. We are still on top with the two-inch block.

I notice in the national association rules that we got some two years ago they adopted for standard specifications of sidewalks nothing less than three inches. That is right, no objections to it, but I hope when they meet again they can cut off another inch. I believe that is



PETER PALMER, OAKLAND, NEB.

Secretary-Treasurer Nebraska Cement Users' Association.

all tonight. I want to be brief because I want you to hear Professor Barbour on cement. (Applause.)

Here Prof. Erwin H. Barbour, state geologist, Lincoln, gave a stereopticon lecture on some of the lesser and greater uses of concrete, which was very entertaining and instructive.

SECOND DAY'S SESSION.

Promptly at 7:30 o'clock President Porter called the meeting to order.

Minutes of the previous evening's meeting were read and approved. The first paper was by Peter Palmer, on the subject:

THINGS I AM UP AGAINST

I have been assigned a subject, "The Problem that Confronts Us Blockmakers; or, in other words, What We Are Up Against."

In the first place, we are trying to conduct a business in which we lack the necessary knowledge. Did it ever occur what a help it would be to you, blockmakers, if you were an architect, a builder, a molder, a mason, a machinist and a master mechanic in all lines? We could then compete with the world, but one man cannot do all this, so we must have patience and let this problem adjust itself.

We have been fought in the past by architects and builders and hoodooed by machine men. We all remember five or six years ago when the machine men sent their representatives all over the country, selling machines, telling the would-be purchaser how he could get rich quick, how he could make blocks six, seven and eight to one, build houses, plaster on the stone and thereby lessen the cost of construction. The architects and builders knew this would not be a success, so they came out in opposition, and the result was that the blockmen and the machine men that started that way made a failure, and today nearly every blockmaker has a junk pile that cost him \$500 to \$5,000. Yes, and I venture to say that with a few exceptions there is nothing but junk on the market yet.

We all remember that whenever we bought a machine or mold of any kind, we had to take the same to some

shop and have a few files worn out before we could get them to fit, and until all the machine men turn out all their work in a mechanical way we shall be up against this problem.

The second problem that confronts us is the building of wood. Probably the habit of building of wood is a direct inheritance from our forefathers. The early comers found the inexhaustible forest close to his hand—in his wildest dream he could not have foreseen the reckless vandalism which is today stripping our forests to the naked soil. His immediate concern was a roof to cover himself and family. This was very well in the days of scant population of men and uncouth multitudes of trees, but now that we are a staple and largely stationary nation, the frame house habit has become fixed upon us. We have not adjusted ourselves to the new condition of the vanishing forest.

Timber has doubled in price in the past few years, nevertheless 61 per cent of our new buildings last year were of wood. We use five hundred feet of lumber per capita in a year in the United States. Europe uses sixty feet of lumber per capita in a year, so you can see what we are up against. At times the ratio of construction to destruction shows on the wrong side of the ledger, as was the case in January, 1908, when the total of new buildings and repairs was \$16,000,000, as against \$24,000,000 loss by fire.

There are some 11,600,000 buildings in this country, and 8,000 of them are fireproof, if this term can be stretched to cover a multitude of sins. But what is the cause of this burning of our lumber and the nation's money? Isn't it time to wake up and build of material that will not burn? Yes, there are several reasons why this is necessary.

Our lumber trust is continually preaching against the cement industry, yet, on the other hand, they are trying to get control of the cement business.

But there is another log in our way which should receive the serious attention of the cement manufacturers as well as cement workers all through the country, which is the skillfully planned campaign of brick manufacturers to prevent the use of concrete—by planning to have unjust laws put on our statute books of many of the cities regarding this building material. Yes, and they have succeeded to a certain extent; but, thanks to the lawmakers, where they have gone too far they have been checked. Nevertheless, we are going step by step and have laid the foundation for an industry that will not crumble, and the time will come when the public will realize the fact. Then we shall reap the benefit of our effort.

To succeed we must let every one know that we have confidence in our material by showing that we will use no other. Tear down your wooden shanties and build your factories of concrete blocks. Practice what you preach whenever you are in the right. Did you ever see a gas company light its office with electricity? If you did, the chances are that whoever has charge of it is not up to his work.

Other material men will not forget to tell the weak points about your material to the customer, omitting his own. But, gentlemen, we are standing on a concrete foundation that was laid on solid footings, and we are going to build our structures so that they will stand as monuments for ages to come. We shall name it the cement age, and when we rest beneath the soil the generations to come shall meet in convention halls made of nothing but cement stone.

President: As there is no discussion on this paper we will pass to the next number. This is a practical talk on reinforced concrete construction, illustrated. It is with great pleasure that at this time I introduce to you C. A. P. Turner, of Minneapolis, who will now address you.

A PRACTICAL TALK ON REINFORCED CONCRETE CONSTRUCTION.

By C. A. P. Turner, M. Am. Soc. C. E., Minneapolis, Minn.

It gives me pleasure to come before an audience and note the interest that you seem to take in the cement industry. The friend who preceded me brought up one or two points that I think should be a benefit to us all. One is the question of legislation.

There is a good deal of this that we want to keep an eye on, laws which are distinctly unjust to concrete. How are we going to remedy this? By the strength of organization. That is the only way that you can get what you want, get together and work together, then you will take some hand in framing the laws that govern the class of work in which you are interested.

There is a case in point, gentlemen. About four years ago we were all called upon to aid in a method to get a government appropriation for their investigation of concrete and reinforced concrete. The various cement organizations over the country were asked to write letters to their congressmen and senators and representatives at Washington to secure this appropriation. It was a time when building laws presented strongest contrasts in places of only a few hundred miles apart. For one instance, one city would allow us to figure on steel, and allow us nothing for the hooping it contains to make them stable and hold them together. Another city a few hundred miles away would allow the hooping, and would allow nothing for the hooping steel, and so it went. It was a time when some tests by those qualified with the position of authority by the central government needed promptly to settle these questions and bring the municipal building laws into line on a reasonable basis, and we all got together and worked real hard to have this appropriation secured. When we got it there was a general committee appointed, and on that committee, as far as I know, there wasn't one single representative concrete constructor in the whole bunch. There were some very able engineers, men in the line of structural work for their ability but totally unknown in the field of reinforced concrete. The natural result of a committee of this character was to commence this investigation, not at a point where it would assist those in our lines of business, but to commence an investigation about building facts known fifteen years before the appointment of this committee, and well known by those versed in this line of business. And today, after between three and four years, they have issued a progress report, characterized by the *Engineering News* editorially as a passing impression of a body of experts—as an unbalanced document. They said that it had been known that quite extensive experimental work had been done, but the ridiculous fact remains that no reference to this work is to be found in this progress report, and nothing is quoted of this work in justification of the unit values

recommended by this committee. Does not that look to those of you who do some thinking as though it is about time for our cement users' organizations to see that they are represented in the expenditure of government funds for the advancement of their line of business?

Another advantage of organization which I do not think we should lose sight of is, that we can help each other. We have enough opposition on the part of those who are opposed to concrete on the ground that they have invested and are interested in other lines of materials, without assisting this class of opponents by working against each other. The field for concrete where the work is well done, whether in the form of building blocks or reinforced concrete, is large enough for us all providing we are doing good, honest work. The manufacturers of Portland cement are to be congratulated upon producing an article uniform in quality and capable of being made into the highest grade material for building purposes when properly handled. Our object should be to handle it properly and help each other to do so, and thereby remove the objections that have been urged against this material. When we come to consider the enormous fire waste in this country, and the enormous loss of life in that most horrible manner, by burning, as typified by the disaster at Collinwood, O., where a large number of children were burned together, and another almost equally as disastrous in Montreal, and the loss of life so frequent, at a time in those fires, the importance of an industry which will give us fireproof buildings exceeding but little in cost that kind of flimsy combustible material used to advantage in your days, I believe these improvements should be recognized and every effort made to encourage its introduction along economic lines. There is no one in this business that is not injured by every failure of reinforced concrete construction. It prejudices the general public against its introduction, and hence we can well afford to aid each other by the free exchange of ideas, and the charges that those who are engaged in the reinforced concrete industry are necessarily commercial in their views and would not be safe men to trust with the formation of rules for the conduct of reinforced concrete, hardly have any standing with those who are able to think clearly. It may be true that those who are selling a material which enters reinforced concrete work without in any wise assuming the responsibility for the finished product or taking any interest in it more than the commercial sale of the material may be influenced by this class of commercialism, but not by the men who take an interest in their work, who stake every dollar that they possess on the stability and strength of their construction; who have proved by a long experience that concrete in their skillful hands is safer to erect than steel and timber construction; that it grows stronger and better with age, and that it can now compete in point of price with heavy timber construction for our warehouse buildings, and for such buildings as hotels, school houses, etc. These are facts which I believe are of interest to everyone in the community, regardless of whether they are commercially engaged in reinforced concrete construction or not. I have seen so many attempts to legislate the reinforced concrete structure out of business that I can well appreciate the need for organization. And I hope that my fellow workers in Lincoln here will see to it that they have a good strong organization and will use it along right lines for the proper promotion of this industry.

Now, gentlemen, I have here a number of views which I shall have to look over and give a few suggestions to the party operating the lantern, and then I will try to continue with a few remarks on the subject of reinforced concrete. (Applause.)

The speaker then gave an hour to exhibiting the many different forms of concrete construction by the use of a stereopticon, accompanying the views with brief remarks.

In conclusion he said:

It may not be amiss to say something regarding the safety of concrete construction. That is one of the objections urged against it by those interested in other lines. Our experience in the construction of concrete of some where, I expect, between five and six hundred acres of reinforced concrete floors, throughout this country, Canada, Australia and elsewhere, satisfies me that no class of construction is safer to put up than reinforced concrete providing that it is conservatively designed and honestly executed with ordinary care. Now, when anyone has been associated with that amount of work they naturally have some very pointed opinions as to what constitutes some of the essential elements of safe and conservative designs, and even at the risk of tiring you I will try and give you a few of my views along that line.

In column construction I believe it one of the first requisites to design a column with the reinforcements placed in such a manner that there can be no question but what the shaft of that column will be filled solidly with concrete and with no voids. And I can conceive of no better way of arranging reinforcements than keeping the reinforcements towards the outer section of the column and leaving a hole with nothing crossing it from end to end, so that when you start to dump the mud into it it will fill it full. Then mix the concrete sufficiently soft so that it will flow slightly, not so that it will be extra sloppy, but fully surround the reinforcements.

The next important principle is to thoroughly tie the work together. Concrete in setting shrinks. The shrinkage may be confined in the floors to merely vertical contraction if well tied together. If you remove the forms from the concrete before it is thoroughly hardened, and if it is not pretty well tied together you are liable to have something down on your heads. Then again if it is overstrained and it is not thoroughly tied together the result will be a sudden collapse. On the other hand, if the design made is conservative and you have used the right kind of reinforcements you can load the section or slab so that you will actually crack the concrete through, so that you can deflect it three to six inches, and still it will not go down, the reinforcements holding it like the bottom of an old basket until in its new position the middle reaches a new equilibrium curve with sufficient dip to give it the necessary lee around to support the load under a new position. This, of course, can only occur when there is sufficient lap of the bars to give it anchorage at the ends. With a high carbon steel you would hardly look for such results. You would expect, on the other hand, when that started to go it would go a little quicker than you wanted. That is one reason I prefer to use a little tough medium steel, then when I test it I don't object to getting under it because

I know it is there to stay. Now, if there are any questions you would like to ask I will try to answer them to the best of my limited ability.

A Member: Do you tamp those forms?

Mr. Turner: You don't do much tamping. There is some puddling to make the mixture soft enough to flow easily, as I have stated.

A Member: In what proportion?

Mr. Turner: One, 2 and 4 mixture makes a pretty good mixture. That is, a good mixture for ordinary purposes, providing you have a coarse sand. The character of the sand has a great deal to do with the strength of the mortar. You will find sand that will frequently require double the amount of water. In our practice we frequently use gravel without any crushed rock where the gravel wasn't quite large enough; any stone that has the coarse material to make a 1-2-4 mix or its equivalent we have used a little extra sand. Sometimes seven sacks to the yard.

A Member: In what manner do you prepare the steel skeleton for the column?

Mr. Turner: We have machines that cost—some of the boys claim they have done the bending as low as 50 and 60 cents a ton.

A Member: I would like to ask if part of the roof was shaded and part of it was exposed to the sun, if there would be more shrinkage to the part exposed; and if there was, would that have a tendency to crack it?

Mr. Turner: Any concrete floor exposed when wet to the heat of the sun is liable to develop the shrinkage cracks on setting. Those cracks are frequently $\frac{1}{8}$ of an inch across, and 2 or 3 feet long.

A Member: Would it have a tendency to do that after the cement was thoroughly set?

Mr. Turner: No, sir. That arch bridge I showed you on the screen had a mushroom floor. I am using at the present time for constructing that viaduct over the tracks of the Minneapolis, St. Paul & St. Marie Railroad into St. Paul. I have one panel 25x36 feet and it is to carry the heavy interurban cars of the Minneapolis & St. Paul street railways. For county bridges we have made quite a large number of flat slab stones. Up to thirty feet we find we can put in flat slabs more economically than any other kind.

A Member: In regard to a flat slab of thirty feet, what would you recommend the size of the rods for reinforcing, and the thickness of the slab?

Mr. Turner: It ought to be about twelve inches thick, and for reinforcing, we have on the Wisconsin Central freight shed some at 24" and 34" centers and one-half of them are $\frac{3}{4}$ " and one-half of them are $\frac{1}{2}$ " smooth rods.

A Member: What percentage is that?

Mr. Turner: It is a rather small per cent. It would be less than one-half of one per cent. But you must bear in mind that I am not speaking of one way reinforcements. There is a big difference, it would make a difference of over 400 per cent, depending on the direction that you run the rod; so it is desirable to keep that in mind. You are asking for per cent of material, which would be a comparison with volume of concrete.

A Member: You gave a difference in favor of the concrete construction of \$55,000. What was the total cost of that building?

Mr. Turner: \$225,000 to \$250,000; of course, that would be the bare building, not including the tanks, fittings, etc.

A Member: I noticed in the photograph of the building that you kept the false work about every two stories. Is it safe to take it out, and when?

Mr. Turner: That depends upon the weather. You may run across a cement, which one of my friends did in San Francisco, which at the end of three months hadn't set hard enough to remove the forms.

A Member: Did it ever set?

Mr. Turner: Yes, sir. At the end of 4½ months it set, and usually does in that kind of construction.

What we need in the reinforced concrete business is an active cement. We cannot wait two or three months for a very slow setting material. Even a good cement, however, in cold weather, if it gets frozen, will lie dormant for a long time—I have known of cement freezing almost as fast as it was put in, and spring came and it thawed out and it was just like the mud when it was put in, then by giving it proper treatment and giving it six weeks' time it would ultimately be all right. Therefore, don't be hasty in condemning the cement.

A Member: In regard to the state of concrete in cold weather, isn't it the proper thing to do to use just the least possible amount of water that you can get the result from; isn't it better in freezing weather?

Mr. Turner: You don't want to use too much water, but you still want the concrete plastic. Nothing sloppy or wet, it is better to avoid that excess. It would not particularly do a great deal of harm, but you have always got to have enough water to crystallize the mass. If you don't you will not get concrete of standard strength.

A Member: I would like to ask, in casting these columns, how long a column have you been able to cast at one time?

Mr. Turner: We have cast up to 40 feet, but we didn't make a continuous boring in that case. Yes, we have cast them over that, but it takes a pretty strong form to hold it.

A Member: Ordinarily, do you pour your column in all at one time?

Mr. Turner: We do.

A Member: Does hot water hurt cement?

Mr. Turner: To apply directly to the cement it does.

President Porter then introduced Prof. Grove E. Barber, who gave one of the most interesting lectures of the convention, illustrated by numerous stereopticon views made by him, on the subject "Materials of Construction Used in Ancient Rome." Prof. Barber has the chair of Roman history and literature at the state university.

At the conclusion of the lecture those present were invited up to the table to see some samples of concrete, stone and other objects brought from the ruins of Rome.

President Porter then appointed the following committees:

Auditing—C. A. Overstreet, Clay Center; O. O. Thomas, Luskton, and C. J. Tracy, Loup City.

Nominating—T. C. Daugherty, Auburn; H. R. Park, Bruning; W. E. Bass, Broken Bow; N. J. Peterson, Omaha, and H. V. Grantham, Lexington.

Resolutions—H. C. McCord, Columbus; A. J. Jones, Bennett, and C. C. Nelson, Utica.

The secretary then read the proposed amendments to the by-laws. On motion these were laid on the table.

President Porter was then authorized by motion to appoint a committee on amendments.

Amendments—John Grabaugh, Grand Island; J. R. White, North Platte, and W. E. Whitcomb, Winnebago.

FRIDAY'S SESSION.

President Porter called the meeting to order at 7:30 p. m.

The secretary read the minutes of the previous meeting, which were approved.

The chairman of the committee on by-laws read a report.

President: You have heard the reading of the report, what will we do with it?

Mr. Lillie: Before we accept or reject that I would like to make a motion, that all honorary members of this association be entitled to a vote. Seconded and carried.

Mr. Overstreet: I move the amendments as proposed be accepted and declared adopted and become a part of our by-laws. Seconded by Mr. Palmer. Carried.

No further business coming before the convention at this time the first number on the program was:

THE CRACKING OF CONCRETE BLOCK WALLS.

By J. R. White, North Platte, Neb.

This subject is of vast importance to the blockmaker and builder. We have all held some theories as to the cause of cracks. If we can show a logical cause we will have accomplished something in this short article.

I would first have you go with me to the pioneer days of making and laying these blocks. In those days there were no practical manufacturers; we were all amateurs in the making of blocks; our instructors were the machine manufacturers, who, of course, were lending their great intellect to the sale of the machine, showing the large profits you should make. They failed to show the effect that would be caused by the lack of skilled labor and the slack in the use of material. This on the part of the machine men was either not thought of by them or was ignorance on their part at that time.

As we were all beginners, I do not wish to condemn the man who had the machine to sell any more than ourselves. At any rate, I consider that this was a cause that had its effect, and it was not a very good effect. But if this were all the cause that I could find, it would be lightweight. But here is one of the strongest causes in my belief—the manner of how the block is set. Like the early days of manufacturing, the man who could be found who could do a good job of setting these blocks was not to be found in the field, no matter where you looked nor what price you would pay. Here again I do not want to cast reflection on any one, but if you hired a mason, no matter how good a mechanic he was, invariably he was a failure as a block setter, and was in many instances one of the causes of cracks often found in the structure. In my own work I have given this my greatest attention, to avoid the ugly fissure in my walls. Of course, you must have a good block, then you must have a good foundation, one that will carry the load you place upon it and some to spare. But you masons who put up the superstructure must do your work good. The settling of blocks with unevenness of joints will show cracks, and that without fail. It is the heavy and light joints that cause the trouble. You must have the joints all of one size as near as possible. If you would obliterate the cracks you must be careful in the screening of the mortar sand. Use enough lime and cement to make your mortar a solid mass, so it will work smoothly at all times. On several jobs where the writer has been during the course of construction I have seen sand of such coarseness going into the mor-

tar that no mason could possibly set his block with a fine, neat joint. The consequence was, that the block was often left out of level, many, both ways, in the building. The probability of this is that just one sand gravel carries this block out of level, yet from all that the eye can see the joint is solid masonry, but not so if tested. The lone gravel leaves the rest of the mortar unpacked, and when the blocks are placed above with their weight, this little insignificant gravel often starts trouble, and if there should happen to be a few of them in one neighborhood, much mischief may be expected, and we will find the owner, contractor and mason all inspecting the foundation or condemning the concrete block; in fact, looking for trouble where there is perhaps no trouble and overlooking the cause that seems entirely too insignificant to be noticed. Now, some ask, why do not the brick walls crack from this cause? This is easily answered. The brick wall only containing a small area compared with a block, seldom passing through more than one-third of the wall, with every few courses a header, it is easy to rid one's self of this idea. Here I wish to call your attention to one problem: How many of you have ever noticed the fact that in a brick wall of eight inches the cracks compare with the walls of twenty-one inches. Take the fronts of many brick buildings and compare the pressed brick with common brick work, and I believe you will agree with me that with close mortar, fine sand and fine joints, we will soon hear no more about cracks in block walls.

Secretary Watenpugh read his report as secretary and treasurer, which was received and adopted.

The report of the auditing committee was also received and adopted, and the committee discharged. At this point the president called to the chair Mr. Roney, while he retired from the room, during the election of officers.

The election resulted in the following being elected on recommendation of the nominating committee:

President, L. E. Porter, York, Neb.

First vice president, H. C. McCord, of Columbus.

Second vice president, H. V. Grantham, of Lexington.

Secretary-treasurer, Peter Palmer, of Oakland.

Board of Directors for one year term: C. A. Overstreet, Clay Center, and G. F. Lillie, of Tekamah.

For two year term: Frank Berger, of Hastings; J. M. Kreiger, of Rising City, and H. R. Park, of Brunning.

On motion the convention by unanimous vote thanked the retiring secretary, Mr. Watenpugh, for his services to the association.

Secretary: Gentlemen—Perhaps it might be my duty to say a word here. I thank the members of this association for their cooperation with our president and myself, in helping to attain the standard to which we have come. I appreciate your cooperation greatly. I thank you for all that you have done for me, and I have tried as you all know to do the best I could. I hope I have accomplished, and I know you have accomplished something, and I am glad to be relieved of this position, and I only hope that your coming secretary will fill the chair better than the man who has just been voted out. (Applause.)

Upon motion of Mr. Daugherty, a committee of two was appointed to find Mr. Porter and bring him to the chair.

While waiting for this committee to return, the following report of the resolutions committee was received and adopted:

REPORT OF COMMITTEE ON RESOLUTIONS.

Resolved, That we extend a vote of thanks to W. A. Selleck, president of the Commercial Club of Lincoln, for his hearty welcome to this city and their club rooms during the day.

Resolved, That we extend a vote of thanks to the Commercial Club for their liberality and their many courtesies shown us during our stay in the city.

Resolved, That we extend a vote of thanks to the following persons for their excellent service on the program:

Richard L. Humphrey, Philadelphia, president of N. C. U. Assn.; Orville Jackson Fee, Edwin H. Barbour and Grove E. Barber, of the State University; C. A. P. Turner, member Am. Soc. of C. E. of Minneapolis; Walter C. Boynton, of Detroit; Peter Palmer, J. R. White and T. Cone, members of our association.

Resolved, That we extend a vote of thanks to the technical press and the press of this city for space given us in their respective papers.

Resolved, That we extend a vote of thanks to the management of the Lindell Hotel for their hospitality in furnishing the convention home, and also their faithful and painstaking services rendered us.

Resolved, That we extend a vote of thanks to our officers and board of directors.

Resolved, That we extend a vote of thanks to exhibitors who have so kindly helped carry on our convention.

WHEREAS, The United States Geological Survey in its structural materials' testing laboratories is conducting investigations of the highest importance to every one using structural materials, and

WHEREAS, The investigations of cement mortars and concretes are especially of great value to every user of cement; therefore, be it

Resolved, That we, the Nebraska Cement Users' Association, in convention assembled at Lincoln, Neb.,

February 10-13, 1909, do hereby petition the congress of the United States to continue the appropriation providing adequately for the continuation of this important work.

Resolved, That a copy of these resolutions be sent to the vice president of the United States, to the speaker of the house of representatives, and to the members of congress from this state.

Respectfully submitted.

(Signed) H. C. McCord, Chairman.

RESOLUTIONS.

We, the Nebraska Cement Users' Association, in convention assembled, having recognized the lack of the natural resources of building material in this great state of Nebraska, and

WHEREAS, There has been found an unlimited quantity of high grade materials for the manufacture of cement in many localities of this state, and so attested by the geological survey of the state, and

WHEREAS, The only bar to the development of these great fields of wealth to the commercial wealth of this state is the lack of fuel; therefore, be it

Resolved, By the Nebraska Cement Users, in convention assembled, that we memorialize the governor and legislature to appropriate a sum of \$5,000 to the engineering department of the state university, to be spent in perfecting a denatured alcohol plant as a speedy way to the development of what has, and is, becoming the only sane and perfect building material known to the great advancement of the present day.

At this point Mr. Overstreet came in with Mr. Porter, who on being informed of his reelection took the chair and thanked the convention for the honor of a reelection as follows:

PRESIDENT PORTER'S SPEECH OF ACCEPTANCE.

I thank you for this reelection; I appreciate it. I know that we cannot satisfy everybody. I have done the best I could, and I know I have made mistakes, and will in the next year. You must expect it. I want you to tell me so. I may have ruled wrong in some things, but I ruled as I thought best, and that is all I can do. I am glad to see this convention here. I think it is away ahead of any we have had; in fact, I know it from several standpoints. Here is what we ought to try to do to make things yet a whole lot better. I am glad so many of you seem to be staying with me to the last. I hope next year every one will come to the convention and stay with it from start to finish. Let us try to make up our minds next year to come and stay the thing clear through. I thank you, gentlemen. (Applause.)

President Porter: The next will be a paper by Mr. T. Cone, of Wahoo, on "Progress."

Following this a paper was read by Walter C. Boynton, editor of *Concrete*, on the subject of "Some Real Needs of the Concrete Industry."

On motion convention adjourned sine die.

The House That Won First Prize.

One of the features of the convention at Lincoln was the awarding of a prize for the best concrete block house erected during the past year by a member of the association in the state of Nebraska. The house, as will be seen by the accompanying illustration, is a very handsome structure, and one that any firm might well be proud of having erected. It was built by the Omaha Concrete Stone Company, Twenty-eighth and Boyd Streets, Omaha, Neb. Grant Whipperman, the manager of the plant gave his personal attention to the details of construction.

The residence was built for Dr. R. E. Lamoreaux, 1330 South Thirty-third Street, in the swell Housecom Park and Country Club residence district. The blocks were made at the yard about four miles away, delivered on the ground and set by masons employed by the Omaha Concrete Stone Company. Nearly all of the blocks were made on a Frost 32" block machine, mixed by a Clover Leaf mixer, tamped by a Kramer automatic tamper. The proportions of the mix used were four parts Platte River sand, pit run, and one part Sunflower Brand Kansas Portland cement.

The blocks other than special sizes were taken from the regular yard stock as fast as needed.

The time actually required to build the walls was about three weeks. The rough plans for the residence were drawn by the owner, the finished plans and blue prints were drawn by F. A. Henninger, an architect, located at Omaha.

The cost of construction was nearly \$8,000. This, of course, includes everything needed to make the house complete. This includes hot water heating, gas and electricity. The first floor is finished in quarter sawed oak throughout and the second in birch and maple. The porch and balcony floor are concrete. The basement is eight feet to the ceiling, built up to the water table with 12x9x32" blocks on a concrete base 24" wide and 12" deep. The first and second story have 8" walls, the blocks being 8x9x32".

The Omaha Concrete Stone Company began operations in a small way April 25, 1905. They had an uphill job as the concrete block business had a black eye in Omaha owing to the fact that what work had been done previous to that time was for the most part of an indifferent character, and it was some time before the public could be made to believe that a concrete block properly made and laid was a good, safe building material. This company has labored unceasingly to bring about a change in public opinion and it took them some time to put the business on the high plane it is today. Sometimes they had to put in work at the bare cost of the materials in order to get them in at all. However, as the work which they did began to speak for itself it became more generally accepted. This firm has built since April 25, 1905, two large churches, seventeen residences, one factory building, one store building, one auto garage and innumerable basements and foundations for all kinds of houses.



CONCRETE BLOCK HOUSE BUILT BY THE OMAHA CONCRETE STONE COMPANY, WHICH WON FIRST PRIZE.

THE EXHIBIT FEATURE.

The exhibits were arranged in the Auditorium just across the street from the Lindell Hotel, which was a much better location than last year. While the exhibits were many and varied in character, there would have been a great many more had the dates of the exhibition fallen at some other time. A great many machinery men find it difficult to show at two places at the same time, and as the show at Oklahoma City was going on at the same time, some of them went to the latter place. A few exhibitors were afraid to ship to Lincoln for fear that they would not get to Chicago in time.

However, those that did make exhibits were very well satisfied with the results obtained, as a considerable amount of machinery and other equipment as well as cement was sold during the progress of the show.

No admission fee was charged and this had but one bad feature, a lot of boys were almost constantly in the hall and anything that was laying around loose was immediately appropriated. This can easily be remedied by presenting tickets of admission to those interested and thus excluding children.

The Atlas Portland Cement Company occupied a booth in the center of the hall and distributed some very good literature useful to the amateur as well as professional concrete worker. Thomas M. Magiff, one of the star men of the Atlas force, was in charge, assisted by I. W. Lewis and Walter Smith.

The Universal Portland Cement Company has a very attractive booth in charge of E. J. Dowdall, the manager of the western territory, assisted by J. H. Chubb from the Chicago office.

The Peerless brick machine arrived the second day of the show as L. V. Thayer, the genial president of the company, was delayed coming up from Oklahoma City and his able assistant, J. J. Palmer, was snow-bound coming down from Minneapolis. However, they made up for lost time when they did get there. Jack Palmer arrived first and had hardly unpacked his machine when a man came up who had seen the advertisement of the machine in ROCK PRODUCTS and bought the machine, with the understanding that it be delivered at the end of the show. Mr. Palmer no sooner had the machine set up than another man, who had seen the ad in ROCK PRODUCTS, bought another one. Jack hardly knew what to do, they came so fast. After Mr. Thayer came on the scene they sold machines right and left throughout the balance of the show.

The Miracle Pressed Stone Company had a complete line of their machinery on exhibition, in charge of C. D. Russell and B. R. Smith. The exhibit consisted of a mixer, sewer pipe mold, brick machine, burial vault mold and culvert form.

N. J. Morehouse, of Waterloo, Ia., exhibited the Coltrin mixer, new No. 9 model; the Oliver automatic block machine, and P. B. Miles latest improved block machine. N. J. Morehouse was in charge, assisted by G. A. Morehouse, C. P. Westren and Miss Laura Grace Ackley.

L. D. Scott, of the Marblehead Lime Company, exhibited samples of hydrated high calcium lime, Crown brand lump lime.

Charles Dietrichs Clamp Company, of Little Ferry, N. J., had a sample concrete wall erected with the aid of his well known clamps.

The John H. Von Steen Company, of Beatrice, Neb., had an exhibit of Bonner Portland Cement. W. H. De Bolt, E. G. Larson and C. C. McElwain.

The Reimers-Kaufman Company, of Lincoln, had a fine display of concrete blocks, molded caps, columns and sills. The exhibit attracted considerable attention.

The sand and gravel exhibition was, as usual, an interesting feature of the show. Samples were shown by various firms. The sand and gravel of the state of Nebraska is famous and the samples shown were fully up to the standard.

Berger-Gallagher Bros. Company, wholesalers of Brickton sand and gravel, had a display of their products.

Other exhibitors were:

- Bolte Concrete Mixer, Kearney, Neb.
- W. W. Bailey, Chadwick, Ill.
- Moore Simmons Company, Winnebago, Neb.
- Snell Manufacturing Company, South Bend, Ind.
- Sunderland Brothers Company, Omaha, Neb.
- Eclipse Concrete Machinery Company, Wichita, Kan.
- Smalley & Trulin, Panora, Ia.
- The Perfect Molds, Kendallville, Ind.
- Kerlin Automatic Post Machine Company, Delphi, Ind.
- Ashland Steel Range & Manufacturing Company, Ashland, O.
- J. H. Helwig, Rising City, Neb.
- Somers Brothers, Urbana, Ill.
- Coltrin-Boos Manufacturing Company, Jackson, Mich.

IOWA CEMENT USERS

Hold Profitable Meeting at Des Moines, Where Papers are Read and Discussions Full of Interest Take Place.

DES MOINES, IA., Feb. 5.—The fifth annual convention of the Iowa Cement Users' Association was held in this city, February 2, 3 and 4. The headquarters were at the Savory Hotel and the meetings were held in the large convention hall on the parlor floor.

A large programme had been arranged and every minute was crowded with something in the line of a paper or discussion. The first evening had a long session which was well attended, as were all the sessions.

The subject by J. M. Wheat on the life of Portland cement was looked forward to with a good many doubts and at first, misgivings. Mr. Wheat caused considerable comment by announcing in the daily papers that he would give his address despite all opposition, as he had a place on the programme. His lecture was illustrated by stereopticon views and an elaborate paper.

The exhibits were well attended though some distance from the hotel; there was always a large crowd surrounding each demonstration. Very satisfactory sales were reported by many of the exhibitors.

The attendance was close on to two hundred and the association grows in strength each year. The development of concrete in Iowa is one of the important steps in the progress of the state. The use of concrete for concrete tile, sewers and fence posts as well as sidewalk is the paramount question with the cement users and was the principal subject of the convention.

President George Carlon presided over all of the sessions and Secretary Ira Williams looked after the details of the convention to the entire satisfaction of all who attended. He was kept busy with the registration and a stenographic report of the proceedings was made so as to send to all the members.

TUESDAY AFTERNOON SESSION.

The meeting was called to order by President George Carlon, of Oskaloosa, who announced that the programme would be taken up immediately. He called on C. B. Roman, of Comanche, for a paper on "Cement Dwelling Houses."

CEMENT DWELLING HOUSES.

By C. B. ROMAN.

Cement dwelling houses. How shall we construct them so they will give general satisfaction? In the last five or six years there have been a great many cement dwelling houses built in all sections of our country, but as a whole they have not given satisfaction. So great has been the disappointment that in some localities they are building frame or brick altogether. The cause of this disappointment has been on account of wet walls inside (unless the house has been furrowed and lathed) and wet on the outside for a day or two after each rain.

Now, before making any suggestions as to how a block cement house should be constructed, I will say to the cement users of Iowa that after considerable experience in Iowa, also in the South and West, I have come to the conclusion that cement dwelling houses can be built cheaper, more lasting, more artistic, warmer in winter, cooler in summer, so the walls will be dry inside (without stripping or lathing) than a frame house, and after a rain the outside will be dry in fifteen minutes.

To build these houses we cannot use a core block. Experience has taught the practical cement user that the core block can only be successfully used for foundations and outbuildings. To build dwelling houses we have to use the continuous air space block, or a two-piece block, one finished and the other plain. For a two-story house, make your blocks three and one-half inches thick, lay them with a three-inch air space. Make your outside or finished block about two and one-half to one, make your inside block six to one. Tie your blocks with a No. 6 Z-shaped wire in mortar joint, make your corner blocks angles; if you are using a twenty-inch block, make your corner blocks twenty and ten, same as a carpenter's square, same thickness as your line blocks. You will readily see this will give you a continuous air space all around your building. In this house you can plaster on the wall and you will have no wet wall. When we build a brick house we use a pressed brick or a good hard brick for the outside and a soft brick for the inside. We must do the same with cement; we cannot make a cement block out of five or six to one and expect it not to take and hold water. We must make a rich block for the outside. Some of you might say, why not make your block on the face-down machine and put on a finished face? That will do, but with a face-down machine you can make only one of these blocks at a time; with a side-faced machine you can make two at a time. You can also make your angle corner blocks on a side-faced machine. Now, in regards to the water table. There is no use of making them at the shop in sections, as they are usually made. When your foundation is made lay your joist first, then lay first row of inside blocks, then set up your form around your foundations eight inches high; let it project two inches over foundation; divide this form into four-foot spaces; for expansion joints put in a thin little board every four feet. Now fill your form. After your mortar has set a little take a wedge four feet long and press into the mortar along your form. This will give you the one-half inch drop and two-inch base which we usually use for water tables. After the form is removed you can split the front from

these little boards that make the expansion joints, and put on your mortar joints. This water table looks the same as one laid in sections and is much better, as it binds all the joists and the first row of blocks together. Where you have cellar windows to go over put in your reinforcements in your form the same as you would if you were making them in sections. Reinforce with cable all openings over four feet in length. Make your own cable. Take a No. 6 wire, double one or two hundred feet, drive a stake in the ground, put the bite of the wire over stake, take the other end to a wagon wheel, hook the ends around spokes each side of hub, turn the wheel. You will cable the wire in a few minutes as true as a machine. The writer has cabled thousands of feet for reinforcement, for window caps, round cement stock tanks and all kinds of cement work. This makes a splendid reinforcement.

We may go today to almost any section of our country and you will be surprised to see the amount of cement used for all kinds of work, all cellars and foundations, most all porch columns and floors are made of cement. The farmers are making their hog houses, barn floors, milk houses, stock tanks all of cement, but you say cement dwelling house to them, they will say "No cement dwelling house for me; so and so has built and it is wet inside and out."

Now, gentlemen, in order to get business and get at least a part of the carpenter contracts we must improve on the cement houses that have been built since the introduction of cement as a building material. Cement is the greatest factor in our era and rightly handled will make dwelling houses that will last for an indefinite time, without paint or repairs.

After the paper a discussion ensued on the subject of cement sidewalks, the principal topic being foundations for sidewalks.

Mr. Hines: "We make no foundations for sidewalks except where excavations are made and if we have to dig through dirt to lay we do put in a foundation. In laying walks we make the center thicker than the outside. In doing this we find we can prevent heaving."

Mr. Roman: "Clay bottoms and cinders are porous. They draw water and in winter the water freezes, which causes the walk to heave. The less filler of porous materials the better."

Mr. Gilliland: "I am opposed to two mixes of concrete in sidewalk work. I believe in one mix from top to bottom. When there are two they set independently of one another and make two stones. For crossings we use 1:2:3 mixture."

Mr. Ferren: "We put down a walk twenty years ago with eighteen inches of cinders for foundation. We found that this walk settled. We now use sand, gravel or clean cinders thoroughly tamped."

Mr. Coombs: "I believe all sidewalks heave but settle again unless in the meantime they crack. We put sand underneath and thoroughly tamp it, but allow for a drain. This does not mean a hole, for that will only fill."

Mr. Eckherd: "It is just as necessary to have a finish as it is to have a steel head for an axle. We use a 1 to 4 mix in finishing. Make a good wearing surface of half-inch thick and you will have a good sidewalk. All walks must have drainage and an expansion joint at the proper place. Two hundred feet of walk cannot be laid without expansion joints. Hot weather is as bad as cold weather."

In the discussion which followed, expansion joints and proper mixtures for concrete were fully discussed. In making expansion joints, some used half-inch boards between and cut the top with a trowel, others put paper between and filled with tar or sand, while others cut the grout with a trowel.

The session adjourned at five o'clock.

TUESDAY EVENING SESSION.

The first thing on the programme was an address of welcome by Commissioner McVicar, who in a few remarks extended the city's greetings to the convention. The response in behalf of the association was made by R. G. Coutts, who thanked the commissioner for his hearty welcome to the city.

President George H. Carlon then made his annual address and said in part: "The development of Portland cement shows that concrete is a fireproof material. I believe that the legislatures should enact laws requiring school buildings, theaters, hotels, and in fact any kind of structure that houses large numbers of people, to be made fireproof."

"The farmer has turned to concrete for his uses. He can drain his land by concrete tile, he can house his family in a concrete house; he can use concrete in his barn to build his silo and his walks as well as his tombstone when he passes away."

"Five years ago this association was organized and cement and concrete was in its infancy. Great improvements have been made and I do not believe that there is any industry today that equals the development of the cement industry."

The president then called on Martin T. Roche, president of the Northwestern Cement Products Association, for a few remarks. Mr. Roche gave the history of the Northwestern Association and told how they were preparing for the biggest cement show at Minneapolis that the Northwest had ever seen.

A discussion then followed on concrete block construction.

E. M. Walton, of Kansas City, said he used 15 per cent of hydrated lime in making concrete blocks. He found this gave him a block as near waterproof as it could be made. He said to use plenty of cement and get a good mixture. There are two important things about a house. One is the foundation which should be of concrete, and the roof, which can be made of concrete in the form of a shingle. In winter he uses hot water in his concrete, for he found that the concrete works quicker with it.

George Deickmann, the chief chemist of the Northwestern States Portland Cement Company was called upon; he said: "Few people know the amount of materials required, nor the care that is taken in the manufacture of Portland cement. There are three main stations in the preparation; they are mixing, grinding and burning the materials. Fifty years ago the manufacture of Portland cement was crude, but now it is perfected. The chemist makes tests every hour in the mill. In making concrete the cement must receive a certain amount of water. It needs the water to make a perfect crystallization. A dry mix is like a sponge and it will not give the best results. The American manufacturers are turning out a cement today on which you can depend."

The session then adjourned.

WEDNESDAY MORNING SESSION.

The meeting was called to order by President Carlson at ten o'clock. He called on John F. McIlroy for an address on "Concrete Fence Posts."

Mr. McIlroy said in part:

"Four years ago when we started to make fence posts we used a wet mixture in the concrete. The dry mix could not be used in reinforced concrete on account of not adhering to the steel. All engineers and architects permit no tamping in concrete for building, so the concrete must be wet enough to flow. In a fence post, by tamping a rod will quiver and work a hole, thus getting a poor bond."

"The post business today is peculiar, as we have no standards to go by in manufacturing them. No one knows how strong a post is needed. Fences in some localities require stronger posts than in other places."

"In offering a concrete post to the farmer we are competing with timber which he gets for nothing by cutting on trees on his own property. A concrete post properly set makes a fence line which will be perpetual. A woven wire fence will be kept in shape by stretching and will not need replacing."

"The secretary of agriculture reported that a million dollars was spent last year for fence posts. The farmers all use concrete in some form and are waiting for a good fence post. There is a great field for this business in Iowa. To manufacture one hundred posts per day is an economic proposition. The concrete post costs a little more but pays in the long run. The post does not need to be as large at the top as it does at the butt, but it needs to be symmetrical."

The president then announced the following committees: Resolutions committee, R. G. Coutts, J. F. McIlroy and L. M. Van Auten. Nominating committee, C. B. Roman, W. S. Allen and A. O. Schipfer.

K. A. Pullen, of Onawa, then read a paper entitled, "Concrete on the Farm."

CONCRETE AND CONCRETE PRODUCTS FOR USE ON THE FARM.

By K. A. PULLEN.

In speaking on the subject of "Concrete for Use on the Farm," I will not attempt to describe the construction in detail, but tell of some of the things built of concrete and some of the advantages of this construction with the hope of opening discussion to bring out the details.

When a farmer decides to put up a building of any kind, his first thought is: "What kind of a foundation?" His next question is: "Are brick the best thing obtainable?" He then decides to look into the concrete proposition.

If he is near a gravel pit he finds he can put in a solid concrete foundation for about what the brick alone would cost.

If he is not near a gravel pit he will see how blocks compare with brick in price. He will find that these will cost about the same or a little less than brick laid in the wall.

Next comes the question, "Will a concrete foundation last as long as the brick?"

This is his deciding question and easy to answer. Yes, concrete will last as long and in most cases longer than any brick made.

For instance, if the building is a barn or any of the numerous buildings a farmer has in his feed yard, how long will it be before the rats have dug under the foundation, loosened the brick so they will come out and let the building settle? Or, if the hogs run in the yards and around the buildings, how long will it be until they are eating and rooting out the brick?

Now, with a foundation of concrete or blocks, the rats may undermine the foundation and let the building settle a little, but no part of it will come out; hence if the building should settle, there will be no need of tearing out any part of it and rebuilding the foundation, as would be the case with brick.

The hogs cannot root out a solid concrete foundation, for it is immovable to them, as is also true of a block foundation. As for eating a concrete foundation, they will find it by far too hard.

One great mistake most people make, and especially the farmers—they don't get their foundations high enough.

A higher foundation not only makes the building look better, but it gets the sills and floors, if the building is of frame construction, farther from the ground, and there is less danger of them rotting.

I don't know how it is in other sections of the state, but the farmers in our locality raise lots of corn. Every farmer who does so needs a crib, and for the foundation concrete blocks are by far the best and handiest thing made. I soon found that the full size, or 2-foot length, of block were too large, and so got up a block especially for corn cribs. I made a solid block about 13 inches square and 3½ inches thick to go on the ground and be used as a footing, and another block 9 inches by 12 inches surface and 8 inches high (this block with a large single air space), to be placed upon the flat footing block, thus making a total height of about 11½ inches. The two blocks are sold together, and in laying them no mortar is used, or none is needed if any one at all is used in leveling the ground. The piers are placed one under each end and one under the middle of each floor joist, or about 2-foot centers lengthwise of the crib.

Molds which are solid may be obtained for making blocks for this purpose, but these blocks do not give the height nor the bearing surface which the piers should have.

Concrete floors, when put in barns or similar buildings, should be put well up above the ground level on the outside of the building, so the floor will not draw the dampness.

It is a good idea, I might say a necessity, to put a false floor of plank in the stalls, as the concrete is too hard for the stock to stand on while in the barn.

While out riding not long ago I passed a farm where concrete sidewalks were very much in evidence. A concrete sidewalk around a farmhouse is a sure sign of prosperity, that the owner is a believer in concrete and that we need more like him. It pays to cater to that class of trade.

The subject of concrete houses, barns, etc., is a little out of the scope of this paper, but there is one thing which I wish to mention: The farmer of today is getting up-to-date and is buying a motor car or two for his use on the farm. When he does this, build him a fireproof garage. Use concrete for the foundation and floors, blocks for the walls, and then put on a reinforced concrete roof.

Ice, seed corn, chicken and hog houses, machinery sheds and caves may also come under this form of construction. The value of concrete construction for these buildings may readily be seen.

I have put in several caves of this kind and they have proven quite satisfactory. Nothing as yet has ever frozen in any of them.

It is a common sight in any part of the country to see burned out wooden fence posts, and there seems to be but one practical remedy for this, and that is concrete posts. They are fireproof and when once placed do not rot out. They may cost a little more at the start, but in the end are the cheapest. The subject of concrete fence posts has been fully covered during previous conventions, so I will not discuss it further.

One thing which might prove of interest to you is the repair of old wooden or galvanized iron water tanks by the use of cement mortar.

The fact that new tanks are made of concrete is quite well known, but the repair of old tanks is more of a novelty.

To repair an old tank, fasten several layers of expanded metal lath on, if that is not available, hog or chicken wire, around the inside of the old tank and fill this with rich cement mortar. When it is filled roughly, plaster the outside to make a smooth job and then put in a floor. The walls and floor should be about three inches thick. Leave the old staves on until they rot off.

A small round tank may be made by putting a concrete bottom in a reinforced concrete sewer pipe of large size.

Every farmer who raises hogs needs individual troughs for the brood sows, as well as long troughs for the yard. The trouble with wooden troughs, as I found it, is that the hogs tear them to pieces, tip them over, and they are always filthy and unsanitary.

As a substitute for this I made a core for my block machine and commenced making troughs.

These have been very satisfactory and I have sold lots of them. I make the bottom rounding so that if water freezes in them the ice bulges up in the middle and doesn't break the trough. They are also easy to clean and are too heavy to tip over and break. May be used as feed boxes, troughs for chickens, etc.

A culvert may be built of concrete by using blocks for the walls and putting in a reinforced concrete slab for the top.

I know nothing of silos, but it is very plain to see that a correctly built concrete silo has a great many advantages over the old wooden ones.

The subject of tile for farm draining, sewers, etc., is such that it would take a good sized volume to fully cover it, and I do not feel that I am capable of doing it justice.

A graveled driveway with a concrete curb on each side to retain the gravel in its proper place is a welcome improvement to any farm lawn where the driveway runs through the yard past the house.

In looking over one of the publications on concrete the other day I came across the writup of a concrete hen's nest.

This was a new one on me, but I really believe it will be a good thing.

Concrete may be used as windmill, engine, pump and other machinery foundation of this kind, cisterns and well covers and curbing.

In concluding I may say that I am always on the lookout for information, and I will be glad to hear from anyone who has any suggestions or corrections to make, and if there is any information which I can give I will do my best to give it.

This was followed by a paper by A. O. Anderson on "Portland Cement in Iowa's Drainage Development."

This was followed by a lecture by C. G. Wheat, of Emmetsburg, on the "Life of Portland Cement," and was in the main the address he made before the Iowa Clay and Tile Manufacturers' Association, interspersed with remarks. The lecture was illustrated by stereopticon views of concrete and work. He made criticisms on tile work and gave the result of his investigations on concrete.

The noon hour was reached and the discussion on Mr. Wheat's paper left over till afternoon.

WEDNESDAY AFTERNOON SESSION.

A discussion on Mr. Wheat's lecture then ensued and he by slides on the screen showed the action of acid on concrete. Richard L. Humphrey, president of the National Association of Cement Users, was the first speaker in answer to Mr. Wheat. He said in part: "This association is to educate the people in the uses of concrete. I have examined concrete tile that has been in use for thirty years and found it perfectly good. There have been great advances made in the manufacture of portland cement and that made fifteen years ago is not as good as that made now. The concrete block pictures shown I believe were poorly made; the manufacture and bond was not perfect. In any brick the soluble salts are sometimes brought out in time. Alkalies get out in all minerals, iron, clay, stone or tile. I do not think that the illustrations are fair examples of work in concrete."

C. W. Boynton: "Mr. Wheat's examinations are from a laboratory test and standpoint. In New York they are building the Hoosac tunnel for the water supply. I do not believe that the engineers in charge would select concrete as the material of construction if it was not settled in their minds that concrete was the best material."

"All the masonry work in the Panama Canal is of concrete. Where concrete is used in climates subject to frost, every precaution must be taken."

"Strive to reach a higher plane in concrete work. You can assemble sand and gravel with cement in a way to reflect credit to the manufacturer."

E. P. McManus: "We operated a building stone quarry at Keokuk for many years and furnished dimension stone for buildings. With the development of concrete we began to lose out and so we got into the band wagon ourselves by putting in crushers and furnishing crushed stone to concrete operators. Today we are shipping hundreds of cars of crushed stone where formerly we shipped ten cars. The government now has a project on foot to dam the Mississippi River at our city for the waterways. It is to cost \$15,000,000, and will probably be of concrete. We have in our town fifteen miles of concrete sewers as good today as when they were put down. Don't be afraid to use concrete, but do use good materials."

CONCRETE FAILURES.

By F. M. O'KEY.

In presenting a discussion of this subject to the Association of the Iowa Cement Users, it is not the purpose of the writer to make any hostile attack upon concrete, nor to enter into any controversy in regard to its merits or demerits. In fact, it is not my purpose to make any attack at all, but rather to present a discussion of those causes which result in failure, in hope that workers in this most modern of building materials may profit by such a discussion in that they will seek to eliminate such causes which may result more or less disastrously.

The two words "Concrete" and "Failures," when used in the connection in which they appear in my subject, have more or less of a funeral sound, but I doubt not that more than one cement user is harboring hostile thoughts of which the writer is the subject. But let me ask you to be lenient and reserve your judgment till I have done. Then I hope to have dispelled any attitude of hostility on your part, and to appear not in any sense an enemy of concrete, but a warm friend who has concrete interests deeply at heart.

The concrete industry is today occupying a very large place in the minds of the American public, and well it may, for none other of the materials of construction have made such giant strides in demonstrating its suitability and adaptability as a building material. One has to make but little search to prove that the fields in which concrete is demonstrating its advantages are indeed wide and varied. The discovery of uses to which this much used and much abused material may be adapted seems to continue without end, and perhaps therein lies a menace. The industry is confronted with a situation both gratifying and alarming. The products are growing in favor, but there is great danger, only temporary, I am sure, but none the less real, from the friends and advocates, some of whom in their zeal, inexperience and unlimited confidence, attempt the impossible, or perhaps are quite impossible in the attempt, however legitimate.

The over-zealous advocate, in seeking new worlds to conquer, imagines that a certain thing would be much better if made of concrete, and straightway, without further investigation or proper preparation, proceeds to demonstrate. Not infrequently the result is disastrous failure, and the zealot calls down condemnation not only upon himself, but upon a good thing, which if rightly managed could have been only commended. It is against such foolish ventures as this that the concrete worker should guard. He must be conservative and use good sense and good judgment; make or have the proper plans and designs; investigate thoroughly the use to which the material is to be put; select good ingredients; carefully inspect construction, and the result will be concrete that will not only add to its already great host of friends, but will prove to its enemies that their calamity howling is very ill advised.

In the words of a prominent engineer, "The great problem confronting us now is to properly and adequately meet, foster and encourage the widespread interest in this industry and yet not permit it to grow beyond a safe control. By this, I mean that every effort should be made to avoid and prevent the mistakes, failures and disappointments that surely attend undue haste and want of preparation in the way of proper design, intelligent supervision and employment of trained and experienced men. All this has been found necessary to avoid failure in the use of other materials of construction, then why not in the use of the plastic materials."

Coming specifically to those causes which result in failure, there are two sources to be investigated, the materials themselves and the workers, the latter including not only those who actually mix the concrete and deposit it in place, but the foreman, the contractor, the inspector and the engineer and designer.

It goes without question that to obtain good concrete, good Portland cement must be used. I heard a contractor make the statement not long ago that the manufacturers of cement were reaching so high a standard nowadays, and their product was running so uniform, that it was almost a waste of time to have a shipment sampled and tested. I am sure that the manufacturers will appreciate this compliment, but nevertheless we must not think for an instant that vigilant inspection should be relaxed, nor that we should fail to have even a single car of any shipment tested.

There is always chance of a slip, and that slip may prove highly expensive. Facilities for cement testing are available nearly everywhere, and the cost of the test is not a penny compared to the damage resulting from a single car of bad cement. However, it is seldom that a sample fails to pass the requirements. The specifications of the American Society of Civil Engineers are made lenient enough that a cement failing to pass them ought to be rejected. Many cements pass above even the highest limit required in tensile strength. This statement is based on the results of about forty tests made on twelve or fourteen different brands of Portland cement during the last year. More than 60 per cent passed the higher limit for tensile strength and only three samples failed to pass at all.

So I am firm in my stand that all cement used should be subjected to all the tests required by the American Society specifications, and it is up to the contractor to have the cement on hand long enough for complete tests to be made, which means not less than thirty days.

Mr. W. A. Alken, V. P., of the Spackman Engineering Company, of Philadelphia, makes the following statements in the Concrete Age for January, 1909, relative to cement inspection: "The place to inspect cement, and incidentally to test it, is at the point of manufacture, and not after the material has been delivered on the work, where even if condemned on test, and tests alone without intimate acquaintance of the product means less than generally thought, it is a difficult and expensive operation to prevent its possible use, either through the instance of the manufacturer's agent or the demands of construction. . . . The necessity for inspection in no way reflects on the manufacturer, since intelligent inspection is valuable to both producer and consumer, and must of necessity result in raising the quality of the product, no matter what the material. While the percentage of cement rejected through inspection is not large, as a rule, taking the whole volume of the industry into account, every one engaged in using this material should realize the value of inspection and appreciate that the discovery of and prevention in the use of even a small per cent gives the purchaser an assurance of quality that can be accomplished in no other way."

But to make concrete an aggregate is necessary; sand and a coarser material, usually gravel or broken stone, and occasionally, when a concrete of lighter weight is desired, cinders.

The important part sand plays in concrete work is not generally recognized, and even among contractors and engineers who have at some time experienced trouble directly traceable to the sand used there is found the tendency to depend too much at times on a superficial examination. It is certainly marvelous to observe what wonderful binding qualities cement has when it is mixed in the proportion of one to three of sand and five or six of stone. But we must note, however, that the cement must be spread out pretty thin to fill the interstices of the sand and coat the surfaces of the individual grains three times in volume the cement used. If the sand, however, be poor by reason of its geological origin, mineral composition or decomposition, or because of excessive fineness or its content of fine material of a non-silicious nature, then it is useless to expect good results of such proportions of three sand to one of cement, and only careful analysis and test of the sand will enable us to judge as to whether it should be used at all, and, if so, in what proportions to attain the desired results within the required working limits of twenty-seven or twenty-eight days.

Sand should be clean and coarse, and the individual grains should be firm. If the grains are covered with a thin film of dirt or clay, the cement cannot get a bond and when concrete made with such sand is broken, the fracture shows that the grains pull out of the cement and leave little pits lined with a film of clay. Undoubtedly, such concrete is weak. I know I am treading on dangerous ground when I say that clay in sand is a detriment, for many tests have shown that sand that contained a considerable percentage of clay and loam developed a higher strength than sand that was clean. But I believe as a usual thing clean sand is the safer. In a recent piece of concrete construction it was found when removing the forms from a column that between the batches of concrete there was a thin layer of what proved to be clay. The sand used contained quite a percentage of this substance, and in tamping the concrete, which was quite wet, the clay has come to the top and formed a layer of appreciable thickness. The column was of course torn out and rebuilt. Further, if the grains are weak individually, and easily fractured, such a sand should be discarded as dangerous.

Coarse sands give a stronger concrete than fine. Tests made by Peret, a Frenchman, showed that in mixtures of 1 cement to 2 1/2 sand the coarse sand developed a strength of 421 pounds per square inch in five months, medium sand 368 pounds and fine 300 pounds. Crushing strength was more marked, showing 5,200 pounds per square inch for coarse, 3,400 pounds for medium and 1,900 pounds for fine.

The best sand is that which is so graded that the voids are at a minimum, or, according to Mr. Peret, where the proportions of coarse grains to fine is two to one. One of our eminent authorities on concrete, Mr. Sanford E. Thompson, says that sharpness is not an essential characteristic of sand. He says: "The majority of specifications still call for 'sharp' sand, and yet I have never known a sand to be rejected because of its lack of sharpness. As a matter of fact, if two sands have the same sized grains, and contain an equal amount of dust, the one with rounded grains is apt to give a denser and stronger mortar than the sharp grained sand. A sand with a sharp 'feel' is preferable to another, not to any extent because of its sharpness, but because the grittiness indicates a silicious sand which is apt to have no excess of fine material."

Much care should be taken in the use of gravel. In some of the gravel used for concrete, many of the pebbles are of very soft composition and easily broken, and some in fact can be crumbled between the fingers, while not a few which seem quite hard are only a shell surrounding a very soft interior. Concrete made with gravel of this kind is weaker than it appears, for every poor pebble reduces the area of the member by an area equal to its own cross-section. That the individual pebbles should be clean goes without saying, for cement cannot gain a good hold on a surface that has a coat of clay or loam, however thin, and when the strain comes the pebbles pull out, leaving pockets lined with a film of the dirt.

The hardness of the stone used, the shape of the particles, their maximum and relative size, materially affect the resulting concrete. I refer now to broken stone. When there is opportunity for choice, the best is that which is hard, with cubical fracture, and with particles whose size is as large as can be handled in the work. Crushed limestone is most used, as the coarser aggregate in this part of the country, and Thompson rates it fifth in his scale of values of aggregate, which is as follows: Trap rock first, granite second, gravel third, marble fourth, limestone fifth, slag sixth, sandstone seventh, slate eighth, shale ninth and cinders tenth. Mr. Thompson gives this classification as the result of a large number of tests, which showed that the hardest stone produced the hardest concrete. He says further that the hardness of the stone grows in importance with the age of the concrete. Thus gravel concrete, because of the rounded surfaces, at the age of one month may be weaker than a concrete made with comparatively soft broken stone, but at the age of one year it may surpass in strength the broken stone concrete because, as the cement becomes hard, there is a greater tendency for the stones themselves to shear through, and the hardness of the gravel stones thus comes into play. This would certainly be equally true of the harder broken stones. It is best to avoid the use of a stone that breaks into flat pieces, for such material packs less closely and is generally inferior to stone of cubical fracture.

Of cinders I have little to say, other than that they should be free from partially burned coal and fine ashes. Thompson rates them as the poorest material for an aggregate, and I believe their use should be undertaken with much caution.

However, while many failures of concrete structures are directly traceable to faults in the materials used, by far the greater number are due to poor workmanship and poor design. A certain man, who, by the way, is hardly to be classed as a friend of concrete, contends Punch's famous advice to apply to concrete construction thus: "Building with concrete, whether reinforced or not, is an undertaking not to be attempted rashly, but prayerfully, and the petition of salvation should never be so intent as when centers are about to be struck."

There is scarcely a field of building operations in which at first glance it seems simpler for the relatively inexperienced to do satisfactory work than in the use of concrete. Here are simple materials—sand, gravel and cement—mixed by crude labor, usually handled in a crude way, and not infrequently the results are equally as crude. I have seen, and so have you, many a man posing as a concrete contractor who has no more business in that line of work than a brick mason at a jeweler's bench. It is greatly to be regretted that it is a popular idea that a very low grade of labor may be employed in mixing and placing concrete, and it is equally regrettable that this idea is carried out in practice. While it is true that the greater amount of the hard work necessary in concrete construction can be performed by men relatively inexperienced and unlearned in this occupation, the engineer and inspector should insist that the contractor place over them a foreman who thoroughly understands the principles of mixing and placing. Not only must the foreman be capable, but he must be honest, and I am sure you will agree with me that it is materially to the contractor's advantage to have a man of that kind in direct charge of work. I do not wish to be understood to say that the majority of foremen are dishonest, but I have seen men in charge of construction, who, the minute the inspector's back was turned, began scamping. A little of the cement was left out or an addition made to the aggregate; reinforcement was carelessly spaced or wrongly set; sawdust and chips were left in the forms and dirt was shoveled up with the sand and rock. It is not necessary to further enumerate these things, for many of you are more familiar with them than I, but more than one failure has been directly traced to the scamping of the foreman who did it thinking, not only that he was "slipping one over" on the inspector, but that he was saving money for the contractor who employed him. The sooner the minds of such foremen are disabused of these mistaken ideas, the better it will be, not only for the contractor but the concrete industry in general.

While, however, the contractor is held directly responsible for failure, it is highly desirable that the engineers who have in charge the execution of the designer's plans be most efficiently schooled in the business, and should know for a certainty what to allow and what not to allow in construction, for the very flexibility and facility for rapid working of concrete invite disaster, if even the most responsible designs and installations be placed in inexperienced hands.

As a final word, let me insist on conservatism. I firmly believe that more detriment is being done today to the concrete industry by its friends through overzealousness than by all the calumny and ridicule heaped upon it by its opponents. Poor concrete must be relegated to the past, and the maker of poor concrete must be made to come to time or be outlawed and forced to quit.

Engineering Experiment Station, Iowa State College, Ames, Iowa.

Following this M. L. King gave a short talk on "Cement Silo Construction."

T. H. McDonald, engineer of the state board of highways, spoke on "Concrete Bridge Specifications" and read the specifications as laid down by that body.

"Transportation Problems" was discussed by G. A. Wrightman, of Des Moines. He said that there were 10,000 miles of railroad in Iowa. In the Des Moines River there is enough water to make this part of the great waterways of the country. There is need for a

committee to define a policy regulating the waterways, and this association should help to get that committee. Until the waterways of this country are developed and in use the subject of cheap rates for the transportation cannot be fixed.

The election of officers was then taken up and the nominating committee reported the following, who were unanimously elected:

President, George H. Carlon, Oskaloosa.
First vice president, J. L. Budd, Des Moines.
Second vice president, C. B. Roman, Comanche.
Treasurer, Geo. R. Ross, Grinnell.
Secretary, Ira A. Williams, Ames.
The session then adjourned.

WEDNESDAY EVENING.

Through the courtesy of the Commercial Club of Des Moines the entire lower floor of the Lyric Theater had been reserved and the members of the association were given seats to the performance, which was a vaudeville show.

THURSDAY MORNING SESSION.

The meeting was called to order at 10 o'clock, by President Carlon, who called on A. Marston, of Ames, for a discussion on the "Cement Tile Question."

Mr. Marston had several concrete tiles which had been in use for thirty years and they were placed on exhibition. The tile did not show any signs of disintegration. He read letters from engineers of many cities who testified as to the satisfaction the concrete tile gave. He also said that they were at work on standard specifications for concrete tile in all its sizes and lengths.

A. B. Elliott then spoke on "Steam Curing of Cement Products." He gave the experience he had and results obtained by curing with steam.

The president then called on Mr. Humphrey, who said that as his slides had not arrived he could not give his lecture. He spoke, however, on concrete failures and said they were in most cases due to ignorance, inexperience or poor workmanship. Concrete is a durable and permanent material whose secret of success is strength. Every year it grows stronger. The reason frost affects the concrete is because it is porous. It is necessary to have density in the mortar. Fill the void spaces by making a thorough mix. It is necessary to have a wet mixture to get results. In the early days of the concrete block business the blocks were made with dry mixtures.

Mr. Humphrey read some tests that had been made at the laboratory in St. Louis.

Speaking of steam curing, he said unless it is carefully done it is injurious. Do not have the steam too dry and the kiln must not be too hot. The moisture and temperature must be uniform. The theory of steam curing is to aid in the process of crystallization. If the process is accelerated too much, best results will not be obtained. Keep concrete tile supplied with moisture and the surface damp. Stand up for a good price on your product and the future of it will take care of itself.

The paper prepared by James Dorrest on "The Training of an Inspector for Concrete Work" was read by Mr. Williams.

This was followed by a paper on the "Locust Street Concrete Bridge, by J. W. Burroughs, who is connected with the city engineer's office.

LOCUST BRIDGE CONSTRUCTION.

By J. W. BURROUGHS.

In taking up the design and construction of the Locust Street Bridge it is not the object of this paper to go into detail of either, but to give you some idea of the bridge and a few interesting facts about the construction of the bridge. The bridge was designed by George D. Dobson, former city engineer, during the winter of 1905 and 1906. He was not at that time connected with the city, but had a private contract with the City Council to prepare the working plans and specifications. The plans and specifications were ready to be advertised during the spring of 1906, but bids were not received until August, 1907. The Marsh Bridge Company, of Des Moines, bid \$124,800 and received the work. The specifications called for the removing of the old bridge, building the new bridge complete with paving, sidewalk, lights, etc. The bridge was designed to carry the full roadway of 42 feet with two 12-foot sidewalks, the same as we have on Locust Street on both sides of the river now. The bridge consists of five spans of varying lengths. The center span is 92 feet, with a 9 1/4-foot rise at the crown of the arch above spring line; the two each side of the center span are 82 feet, with rise of 8.58 feet, while the two end spans are 72 feet, with a rise of 7.2 feet, making a total opening in length of 400 feet. The width of the arch ring is 67 feet 4 inches, making a clear width between hand rails of 66 feet. Total length of bridge from back to back of abutments is 502 feet. The bridge is to be paved with crosote blocks and will be well lighted with large lights of modern design.

Construction work started early in October, 1907, on pier I, and has been carried on without delay up to the time the bridge was opened, January 1, 1909. In building the cofferdam most of the excavation was taken out before the sheet piling was driven. This is unusual, but was done in this case because the wet excavation consisted of coarse gravel and boulders, and would not

allow the driving of the sheet piling without additional expense. The excavation for the piers and abutments was taken out with a one-yard Orange Peel dipper and was deposited at a convenient place so as to be used for backing up around the cofferdams. When enough wet excavation had been taken out a cofferdam form was floated into place and a pile driven in each corner to hold it in place. The sheet piling was then driven in place while the rest of the excavation was going on. Sheet piling 20 feet long of the groove and tongue or Wakefield pattern were used, and were driven about three or four feet below the bottom of excavation. The forms for the cofferdams were about 24x90 feet.

The excavations were taken down to an elevation of -9 city datum, or from 7 to 9 feet below the river bed. The abutments were taken down to an elevation of -2. One hundred and thirty white oak piling were then driven in the piers and 160 driven in the abutments to penetration of from 12 to 15 feet below the bottom of the finished excavation, or to a good solid foundation of coal or slate. These piling were cut off so as to stick up into the concrete from one to two feet. The material excavated was a coarse gravel with some boulders, but would have made first-class material for concrete if it could have been handled cheap.

The water did not cause much trouble, as they had two 8-inch centrifugal pumps going during the time that concrete was being deposited. The concrete for the abutments and piers was 1 part cement, 8 parts gravel. It was mixed with a Smith mixer and raised with a Ransom hopper and elevator to a platform, where it was taken away by large 1-5-yard carts by men. This method was carried out for the first abutment and first two piers, but afterwards they put in a track and carried the concrete out to the rest of the piers and arches in a small dump car which dumped the concrete down a chute. Continual spading was carried on during the time of concreting, so as to keep the large stones away from the face of the concrete.

Iola Sunflower cement was used and a test was made of each carload. The following is an average test made during the construction of the bridge: Initial set, 2½ hours; hard set, 4½ hours; tensile strength for twenty-four hours, 370, 337 and 283; seven days, 575, 790, 777; twenty-eight days, 645, 860, 780. For fineness retained on a 200 sieve, 17.97 and 18.8 per cent; on a 100 sieve, 6.2 and 6.8 per cent.

The gravel used was obtained from a gravel pit along the Interurban tracks in the northern part of the city, and was brought to the bridge in dump cars, which dumped the gravel directly into the gravel bins at the bridge. The gravel is of a dirty color and at first glance one would think it a very poor grade of gravel and that the greater per cent of it was loam and clay, but on testing it we found the following results:

Sand No. 3, 95.475 per cent pure, by elutriation, mostly round grains.

Sand No. 3, 95.35 per cent pure by elutriation, 63 per cent retained on No. 10 sieve.

Sand No. 8, 95.45 per cent pure by elutriation; 4.55 per cent is loam, quartz, iron, clay, etc., sharp grains.

The following shows the comparison of the straight mixed 1 and 2 with Iola cement, between washed and natural gravel. Three parts sand, one cement:

	7th day.	28th day.
Sand No. 8, passed NO30, washed clean.	211	278-290
Sand No. 8, passed NO30, washed clean.	285	344
Sand No. 8, passed NO30, natural.	245	291-338
Sand No. 8, passed NO20, Ret. 30, washed.	218	340-273
Sand No. 8, passed NO20, Ret. 30, natural.	275	317-330
Sand No. 8, retained NO20, washed clean.	323	395-324
Sand No. 8, retained NO20, natural.	301-326	353-330
Sand No. 8, passed NO10, washed clean.	250	403-364
Sand No. 8, passed NO10, natural.	315-322	350-358

You can see from these results that the gravel in natural state made a first-class concrete. The concrete was mixed so that the concrete would run into place and would give a good, smooth, finished surface.

The arch rings were composed of limestone concrete mixed 1, 2, 4. The concrete was handled the same as the first up to the point of depositing, when it was run out on a trust which spanned the bridge in a transverse direction and which moved longitudinally with the bridge. This provided means to deposit concrete wherever it was wanted. The arch rings were run in three transverse sections. In arch No. 1 the haunch sections were run first and the center section last, while in arch No. 2 the center section was run first and the two haunch sections last. No set rule was carried out during the concreting of the rest of the arches.

During the time they were putting concrete in pier No. 1 cold weather caught them, but the bridge company protected the concrete by surrounding the pier with steam pipes. At other times when we had cold weather, hot water was used in the mixing. The bridge company is now building the hand rail part and the retreat, but are building them under cover, with a stove to protect their work. These hand rails and retreat, what they have finished, look as if they have taken great care with them.

Just a word on the reinforcement of the arch rings: It was round steel bars. The longitudinal bars in the extrados are 1¼-inch bars; those in the intrados are ¾ inch in diameter. In the 72-foot arches the bars in the extrados are spaced 20 inches C to C; the bars in the intrados are spaced 10 inches C to C. In the 82-foot arches the extrados bars are spaced 18 inches C to C; the bars in the intrados are spaced 9 inches C to C. In the 92-foot bars in the extrados are spaced 16 inches C to C, and 8 inches C to C in the intrados.

The intrado and extrado bars are tied together every four feet with a ½-inch rod running from face to face of arch ring. Wherever a rod intersects an extrados and intrados a ¾-inch soft steel bar is hooked around the extradosal bar and intradosal bar, alternating from one to the other. There is the same amount of steel in the extrados as in the intrados of the respective arches, but by using larger bars in the extrados it makes a wider space in which to deposit and tamp concrete. The span-drels are reinforced vertically with ¾ rods 4 foot C to C.

In closing it is interesting to note some of the final quantities in the way of material. They used over 48,000 sacks of Iola Sunflower cement, 2,200 cubic yards of 1½-inch broken stone was used in the five arch rings, 8,400 cubic yards of gravel was used in the piers and abutments. About 200,000 pounds of steel was used in the reinforcement.

They have yet to pave the bridge, build the hand rails, sidewalk and curb. The city is going to put in the conduit under the sidewalks and rent them to the different companies that use them. The bridge when completed will be one that the city contractor or anyone connected with it will be proud of. Col. S. A. Eberhart, assistant superintendent of street public improvements, and James Carus, formerly city engineer, had charge of the work.

J. F. McElroy, of the resolutions committee, then read the following report:

REPORT OF COMMITTEE ON RESOLUTIONS.

Your Committee on Resolutions would hereby submit the following:

RESOLUTION NO. 1.

That the thanks of the association are due the officers for their faithful efforts in planning for and carrying out the arrangements for this convention.

The Commercial Club of Des Moines for the cordial welcome extended us through their representative, Commodore McVicar, and for other courtesies shown the members of this association.

RESOLUTION NO. 2.

That the legislature is urgently requested to appropriate \$15,000 for the proposed Ceramics Building at the Iowa State College at Ames, and a sufficient annual amount for properly carrying on the ceramics work. Each member of this association is urged to present this resolution to the senator and representative from his district.

RESOLUTION NO. 3.

WHEREAS, The Structural Materials Laboratories of the United States Geological Survey have been carrying on tests of the highest value in the investigation of concrete and other structural materials; and

WHEREAS, The information already published has demonstrated the high order of this work. Therefore be it



GEORGE H. CARLON, OSKALOOSA, IA., PRESIDENT IOWA ASSOCIATION.

Resolved, That the Iowa Association of Cement Users, in convention assembled at Des Moines, Iowa, February 2-4, 1909, hereby express their appreciation of their work and petition the Congress of the United States to provide adequate funds for the continuance of this work; and be it further

Resolved, That a copy of these resolutions be sent to the vice-president of the United States, the speaker of the House of Representatives and the members of Congress from this state.

RESOLUTION NO. 4.

WHEREAS, Mr. Richard L. Humphrey, president National Association of Cement Users, has at a personal sacrifice made it possible to be present at each annual meeting of this association since its organization, and has promoted the work of this association in many ways; therefore be it

Resolved, That a vote of thanks be extended Mr. Humphrey.

That the thanks of this association be and is hereby extended to the various speakers for their co-operation, which has contributed so much to the success of the convention.

R. G. COUTTS,
JOHN F. McELROY,
L. M. VAN AUKEN,
Committee.

The president then appointed on the legislative committee E. G. McManus, J. F. McElroy and A. O. Shatter.

President Carlon charged the members to go back to their homes resolved to do better work and let the cheap man do the cheap work.

The convention then adjourned.

M. R. Lilly, who is the popular Iowa salesman, has a brand new cement-coated story which he tells—that is, when properly approached.

NOTES OF THE MEETING.

Martin Roche and J. C. Van Doorn, president and secretary, respectively, of the Northwestern Cement Products Association, were both on hand to tell about the great exhibition Minneapolis would have in March. They have sold one hundred spaces for the exhibits and are stirring up all kinds of enthusiasm among the people of the Northwest.

A. Baumberger, the K. C. brand man, looked in for one day to see how the convention was progressing, also to hand out some of his keys and say a word about K. C. cement.

The exhibitors made up a car to ship the machinery to Lincoln for the convention there.

R. Snoody, manager of the Coon River Sand Company, was on hand to tell about their sand output. He says they will have a doubled capacity this spring, as they are adding new machinery to their equipment. The outlook is good for a large business this year.

K. A. Pullen, of Onawa, Ia., says that he had an unusually good year in 1908. There has been a great call for concrete work from the farmers in his section. His paper along this line at the convention was full of good suggestions on concrete on the farm.

C. H. Wise and W. N. Coombs, of the Cedar Falls Cement Company, Cedar Falls, were both at the meeting. They say that concrete work at Cedar Falls has been fine and they look for a better year in 1909.

J. M. Shenck, the concrete drain tile machinery man, looks for a good year in his line. He says that the concrete tile business is growing rapidly, though they have had a hard fight the past year.

President Richard Humphrey, of the National Association of Cement Users, has been to every meeting of the Iowa association. He was unable to give his lecture, as the slides for the stereopticon failed to arrive.

J. C. Burch, of the Iowa Portland Cement Company, says that they expect to have their plant in operation for the spring market. It is nearly complete now and they will be making cement within a few months.

A. C. Wilby, of the Universal Portland Cement Company, made his first appearance as a cement salesman. He will travel in Iowa, where he is well acquainted, as he has been selling concrete machinery for some years.

The Electrical Post Machinery Company was represented by L. P. Carter and H. A. Low. They mixed with the conventionites and gave some advance information on their 1909 line of concrete machinery. They are remodeling their cement tile machine and will operate it on new principles. They report that their machines now in operation are giving the users entire satisfaction. They also make concrete mixers, concrete block machines and concrete post molds.

C. B. McVay, of the Western Portland Cement Company, Yankton, S. D., managed to break away from home so as to spend a day at the convention.

W. H. Smith, of the Red Ring cement fame, was a busy man and always had a customer on the string. He never lets up talking cement, particularly Red Ring.

THE EXHIBITS.

The exhibits were provided for by renting the Curzon Building at Court and First Streets, about three blocks from the hotel. There the machinery was run and demonstrated to the conventionites and many sales were reported by the exhibitors.

Besides this, there were those who had headquarters at the Savery and who met their customers there.

Among those were the Atlas Portland Cement Company, whose headquarters were Parlor E. Herr Walter Smith, the Iowa representative, and F. E. Potter, of the New York office, gave the glad hand to their visitors and they always had a full house. Each man carried away a full set of Atlas literature on concrete.

The German-American Portland Cement Company had headquarters in Parlor D, where John J. Dugan had charge. He presented each visitor with a key chain, which was registered by number with the Owl Cement Club, of which E. L. Cox is the sec-

retary. Mr. Duggan also had some literature on the subject of concrete engineering where Owl cement was used.

Albert E. Whitney, the genial representative of the Iola Portland Cement Company, had signs hanging out, reproducing a bag of Iola on cardboard, with a calendar on it.

At the Curzon Building.

The Universal Portland Cement Company was well represented by a staff of live wires, consisting of C. W. Boynton, chief inspector, and Theodore S. Lazell, of the Chicago office; E. J. Dowdell, western Iowa salesman; M. R. Lilly, and A. C. Wilby, western Iowa salesmen. Their exhibit was on the second floor, where they met their customers and handed out Universal booklets.

The Marquette Cement Manufacturing Company was represented by A. A. Sheneberger, Iowa representative, and George C. Stokes, who has just joined the Marquette force. They gave away Marquette cigars, mirrors, paper weights and pencils, besides a lot of facts about Marquette cement.

The Chicago Portland Cement Company was represented by W. F. Main and F. W. Clayton, the latter having joined the Chicago A. A. staff the first of the year. He will look after the Chicago and Illinois trade.

The Northwestern States Portland Cement Company was represented by George Deichmann, chief chemist, and the husky twins, J. F. Lynch and D. Holly. They had samples of rock and the finished product, cement. They also had a very large sign and lots of good nature.

The Miracle Pressed Stone Company was represented by R. O. Miracle and B. W. Smith. The first two days a large sign decorated their space, which read, "Stalled in the Minnesota snow-drifts, but on our way." Thursday their machinery arrived and it was composed of a concrete mixer, molds for a concrete burial vault and other concrete machinery.

The N. J. Moorehouse exhibit was in charge of Miss Laura Ackley, who was assisted by A. H. Dunn, W. H. Western and A. H. Sweeney. They had two Coltrin No. 9 mixers in operation and sold both machines. They also exhibited the Miles concrete block machine. Miss Ackley is a young lady well posted on concrete machinery and a saleswoman of no small ability. Her able management of the business for Mr. Moorehouse demonstrates her worth.

Somers Bros., of Urbana, Ill., had one of their concrete block machines in operation and made blocks while you waited. F. A. and E. H. Somers were in charge of the display.

Potts Bros., of Des Moines, demonstrated a concrete shingle machine manufactured by the Twentieth Century Roof & Tile Company. The exhibit was in charge of W. W. and J. G. Potts.

The McElroy Post & Pole Company, of Cedar Rapids, Ia., had an exhibit in charge of John F. McElroy and G. E. Fathwell. They demonstrated the use of their reinforced concrete post and the molds for casting them. Their exhibit was enclosed with molds and they had concrete posts on show.

The Carlon Sales Company, of Oskaloosa, Ia., demonstrated the Carlon wall plug, the Iowa brick machine and the Foote automatic concrete block machine. They made blocks and brick for the visitors.

The exhibit was in charge of Harry F. Carlon, assisted by Thomas Allgood.

The Chamberlain Machine Works, of Waterloo, Ia., had a concrete shingle machine on exhibition, on which they made concrete shingles. It is a hand machine and makes shingles, 115 to the square. The exhibit was in charge of A. M. Chamberlain, assisted by F. S. Jones. This is one of the latest machines on the market and the company only secured control of the patents a week previous to the convention.

The Peerless Brick Machine was the center of much attraction at all hours. Its workings were demonstrated by L. V. Thayer, assisted by J. J. Palmer and Carl Jackson. This is a hand brick machine and is the 1909 type, containing all the latest improvements. Mr. Thayer says that there has been a great call for this machine and will be rushed with orders for some time.

The exhibit of the Ashland Steel Range and Manufacturing Company was in charge of A. J. Bentz. He had a U. S. Standard concrete mixer in opera-

tion and the new Ashland concrete block machine. Besides this, he had on exhibition a complete set of pallets for the machine, 125 in number.

W. W. Bailey, of Chadwick, Ill., demonstrated by models the post mold he sells. He also had fasteners for concrete posts.

J. A. Smalley, of Smalley & Trulin, Panora, Ia., demonstrated the new block machine his company is putting on the market. He showed the machine in operation and the block it made.

The Ash Grove Lime and Portland Cement Company had an exhibit in charge of E. M. Walter and J. P. Sprague. They gave away packages of hydrated lime for waterproofing purposes, and boomed Ash Grove cement.

The Eclipse Concrete Machinery Company, of Wichita, Kan., was represented by F. W. Grabendike, manager of the company, who demonstrated the use of the Eclipse concrete block machine.

Another exhibitor whose machinery was lost in the snow and did not put in an appearance was that of the St. Paul Cement Machinery Company. F. J. Pfiffner, president of the company, was on hand and gave out literature on the subject of Ferguson's patent cement drain tile machine.

George Kerlin, of the Kerlin Fence Post Machine Company, Delphi, Ind., had one of his large machines in operation, and made posts for the visitors. This machine consists of elevating the materials and dropping it into the post molds, where it is tamped and automatically removed for curing.

ATTENDANCE.

L. M. Van Auker, Hawkeye Cement Co., Mason City, Iowa.
L. V. Thayer, Peerless Brick Machine Co., Minneapolis, Minn.
S. P. Crosson, Eddyville, Iowa.
Walter Smith, Atlas Portland Cement Co., Ft. Dodge, Iowa.
John Swenning, Doon, Iowa.
Joe Swenning, Doon, Iowa.
Frank W. Wadsworth, Alta, Ia.
W. F. Main, Chicago Portland Cement Co., Chicago, Ill.
Martin T. Roche, Alpena Portland Cement Co., St. Paul, Minn.
E. J. Dowdell, Universal Portland Cement Co., Chicago, Ill.
P. J. Collins, C. W. Hull Co., Omaha, Neb.
W. H. Smith, St. Louis Portland Cement Co., St. Louis, Mo.
F. E. Potter, The Atlas Portland Cement Co., New York, N. Y.
F. W. Clayton, Chicago Portland Cement Co., Chicago, Ill.
Albert W. Whitney, Iola Portland Cement Co., Kansas City, Mo.
J. K. Salveson, Sioux Rapids, Ia.
Bernard McNulty, Rock Products, Chicago, Ill.
A. O. Shindler, Utterbach & Shipfer, Sigourney, Iowa.
A. H. Gilliland, Indianola, Iowa.
Geo. U. Dickman, N. W. States Portland Cement Co., Mason City, Iowa.
A. E. Main, Mystic, Iowa.
Jno. J. Duggan, German-American Portland Cement Works, Chicago, Ill.
A. C. Wilby, Universal Portland Cement Co., Waterloo, Iowa.
G. H. Carlon and H. F. Carlon, Carlon Construction Co., Oskaloosa, Iowa.
L. P. Carter, Lake City, Iowa.
H. A. Low, Electrical Cement Post Co., Lake City, Iowa.
Jno. L. Smola, Maquoketa, Iowa.
Fred L. Reeder, Tipton, Iowa.
Bert W. Anderson, Toledo, Iowa.
James Park, Belle Plaine, Iowa.
S. P. Ward, Wm. Lester, Belle Plaine Concrete Stone Co., Belle Plaine, Iowa.
C. B. Roman, Comanche, Iowa.
Jesse Hines, Greenfield, Iowa.
A. B. Elliott, Elliott Cement & Tile Works, Whiting, Iowa.
W. E. Babcock, Elliott Cement Tile & Block Co., Turin, Iowa.
P. A. Depre, Toledo, Iowa.
A. C. Greenwill, Milo, Iowa.
K. A. Pullen, Onawa, Iowa.
Carr Enright, Atlantic, Iowa.
J. W. Eckerd, Bloomfield, Iowa.
Ed Prall, Atlantic, Iowa.
Frank Ferren, Des Moines, Iowa.
E. H. Rushton and Jno. Werner, Farnhamville Cement Factory, Farnhamville, Iowa.
Fred Ahrens, State Center, Iowa.
C. W. Ennis, Toledo, Iowa.
H. P. Simmon, Grinnell, Iowa.
Lloyd W. Kenney, Creston, Iowa.
F. H. Coats, Farnhamville, Iowa.
Axel Liljequist, Stanton, Iowa.
G. Hiller, Anita, Iowa.
E. A. Tesdall, Huxley, Iowa.
S. W. C. McConkay, Corning, Iowa.
E. A. Bates, Des Moines, Iowa.
R. O. Miracle and B. W. Smith, Miracle Pressed Stone Company, Minneapolis, Minn.
Paul Labadie, Garner Art Stone Co., Garner, Iowa.
Lewis West, Fairfield, Iowa.
W. F. Downing, Fairfield, Iowa.
W. S. Allen, Scranton, Iowa.
G. W. Cook, Redfield, Iowa.
Ed. Binder, Colo Cement Block and Tile Co., Colo, Iowa.
J. H. Cook, Redfield, Iowa.
C. D. Doolittle, Pres., Cement Pipe & Tile Co., Webster City, Iowa.

W. W. Potts, Potts Bros. Tile & Cement Works, Des Moines, Iowa.
C. H. Wise and W. W. Coombs, Cedar Falls Cement Co., Cedar Falls, Iowa.
D. B. Holly, J. F. Lynch and H. B. Hashbrough, N. W. States Portland Cement Co., Mason City, Iowa.
Frank Perkins, Perry Perkins and Geo. Swerger, Des Moines Brick & Lime Co.
Jno. Dustin, Des Moines, Iowa.
Reat Thomas, Des Moines, Iowa.
T. D. Campbell, Cherokee, Iowa.
W. S. Weart and Chas. T. Knapp, Weart & Lysaght Tile Co., Cherokee, Iowa.
F. E. Butler, Jamaica, Iowa.
Orville L. Routt, Dallas Center, Iowa.
L. L. Bingham, Estherville, Iowa.
H. R. Stutz, Aurelia, Iowa.
L. S. Stutz, Aurelia, Iowa.
A. A. Bangs, Downs, Iowa.
T. L. Lazell and M. R. Lilly, Universal Portland Cement Co., Chicago, Ill.
D. P. Faust, Waterloo, Iowa.
James Bales, Brighton, Iowa.
Chas. D. Pierce, Ottumwa Concrete Tile Co., Ottumwa, Iowa.
E. O. Donnell, Fonda, Iowa.
R. G. Cotta, Grinnell, Iowa.
R. L. Mortland, Montezuma, Iowa.
E. M. Walton and Jns. P. Sprague, Ash Grove Lime & Portland Cement Co., Kansas City, Mo.
F. J. Pfiffner, St. Paul, Minn.
C. J. Lantz, Gowrie, Iowa.
Cornelius Vander Meer, Alton, Iowa.
Wm. Thornton, Clearfield, Iowa.
G. E. Tathwell, Cedar Rapids Cement Co., Cedar Rapids, Iowa.
J. M. Overbaugh, Clarion Concrete Construction Co., Clarion, Iowa.
C. R. W. Edgumbe, Cement World, Chicago, Ill.
Jno. F. McElroy, McElroy Post Company, Cedar Rapids, Iowa.
George Gabler, Mason City, Iowa.
R. Snoddy, Coon River Sand Company, Des Moines, Iowa.
A. T. Barnes, Neola, Iowa.
W. E. Dangerfield, Pomeroy, Iowa.
A. H. McGregor and O. M. McGregor, Cement Tile and Construction Co., Berkeley, Iowa.
T. J. Hess, Armstrong Cement Works, Armstrong, Iowa.
Geo. W. Countryman, Birmingham, Iowa.
J. D. Robins, Hillsboro, Iowa.
J. A. Lafferty, Eddyville Stone Company, Eddyville, Iowa.
Phil Schaller, Sac City Cement Stone Co., Sac City, Iowa.
George Dilts, Anita, Iowa.
Michael Villhaur, Iowa Cement Block Works, Iowa City, Iowa.
L. W. Fullmeier and John Maring, Ottumwa Lime & Cement Co., Ottumwa, Iowa.
E. R. Bowman, Victor, Iowa.
H. W. Shafer, Indianola, Iowa.
Ira A. Coulter, Indianola, Iowa.
D. S. Cummings, Indianola, Iowa.
D. R. Warburton, Geo. Sampson and W. W. Stowe, Concrete Manufacturing Co., Grinnell, Iowa.
E. P. McManus, Keokuk, Iowa.
L. E. Jacobs, Grinnell, Iowa.
Geo. C. Stokes, Rockford, Ill.
A. A. Sheneberger, Marquette Cement Manufacturing Co., Cedar Rapids, Iowa.
R. C. Ross, Grinnell, Iowa.
E. W. Clark, Grinnell, Iowa.
I. J. Covey, Improved Bulletin, Minneapolis, Minn.
J. R. Hughes and Mr. Reynolds, Jewett Lumber Company, Des Moines, Iowa.
O. B. Lefstedt, Grand Junction, Iowa.
J. C. Van Doorn, Universal Portland Cement Co., Minneapolis, Minn.
C. B. McKay, Western Portland Cement Co., Yankton, S. D.
E. W. Boynton, Universal Portland Cement Co., Chicago, Ill.
C. H. Jasper, Jasper Lumber Company, Newton, Iowa.
A. Baumberger, Union Sand & Material Co., Kansas City, Mo.
M. G. Rogers, Newton, Iowa.
T. W. Staley, Audubon, Iowa.
Frank Becker, Wall Lake, Iowa.
H. A. Maine, Des Moines, Iowa.
J. M. Burrows, Des Moines, Iowa.
G. A. Wrightman, Iowa State Mfrs. Assn., Des Moines, Iowa.
Viggs Rasmussen, Brayton, Iowa.
G. E. Sargent, Hampton, Iowa.
W. E. Belcher, Humboldt, Iowa.
C. O. Erickson, Madrid, Iowa.
J. C. Lewis, Fontanelle Concrete Works, Fontanelle, Iowa.
E. H. Hansen, Hubbard, Iowa.
W. F. Greenfield, Hubbard, Iowa.
J. K. Welmer, Harlan, Iowa.
Wm. Lana, Harlan, Iowa.
Chas. Bilnk Jr., Rhodes, Iowa.
Richard Clabby, Ogden Cement Co., Ogden, Iowa.
A. Romaine, West Liberty, Iowa.
F. J. Duffy, Anita, Iowa.
Frank M. O'Key, Ames, Iowa.
B. S. Hutchinson, Des Moines Sand Co., Des Moines, Iowa.
R. Wiltse, Valley Junction, Iowa.
G. G. Wheat, Emmetsburg, Iowa.
Jas. Curran, Melrose, Iowa.
R. O. Ayres, Knoxville, Iowa.
L. B. Williams, Coon Rapids, Iowa.
W. W. Mickelberry, Concrete, Detroit.
H. R. Bell, Gilbert, Iowa.
L. H. Bouck, Emmetsburg, Iowa.
M. O. Marwick, Story City, Iowa.
G. H. Wiltse, Grand Junction, Iowa.
E. H. Samuelson, Boone, Iowa.
L. B. Stuart, Cedar Rapids, Iowa.
J. C. Burch, Iowa Portland Cement Co., Des Moines, Iowa.
J. M. Schenk, Waterloo, Iowa.

Elect Officers.

The stockholders of the Breese Artificial Stone Company held their annual election in Breese, Ill., on Feb. 5 and elected the following officers: John Holtkamp, president; Henry Dieker, secretary, and J. G. Beckemeyer, treasurer. The company has a branch factory in Beckemeyer. It has been very successful in the first year of its existence.

OKLAHOMA CEMENT USERS

Hold a Convention at Oklahoma City and Organize an Association to Promote the Uses of Cement in the New State.

OKLAHOMA CITY, OKLA., Feb. 12.—For three days the cement users of Oklahoma have been holding a meeting in this city, which terminated in the formation of an organization of cement users known as the Oklahoma Cement Users' Association. While the name indicates that it is an Oklahoma association, it is not in any way confined to cement users in the State, but it is organized on broad lines for educational purposes to create in the State of Oklahoma a better class of concrete work and a greater amount of concrete work than in any other State.

The call for the meeting was sent out by D. C. Patterson, who is the secretary of the Oklahoma Hardware Dealers' Association. Mr. Patterson gave a good deal of his time and attention to the organization of the association, and his efforts were certainly crowned with success when the convention assembled on February 9.

The meetings were held each afternoon of the 9th, 10th and 11th. Interesting papers had been prepared by men well fitted to discuss the subjects allotted to them, and the association was very successfully launched on a career which will no doubt prove to users of cement in Oklahoma the greatest help to the industry. The meetings were held at the State Fair grounds. A large hall had been provided for the meeting and the machinery hall was used for exhibits. There were a large number of exhibitors in all kinds of concrete workers' machinery and the exhibits were well attended and patronized.

TUESDAY AFTERNOON.

The cement users assembled in the convention hall of the Fair Grounds at 2 o'clock. D. C. Patterson called the meeting to order. He spoke about the necessity of an association for cement users and its relation to the development of Oklahoma. He said that he had taken it upon himself to call a meeting of cement users and contractors and hoped to perfect an organization. He then called upon W. L. Whitaker for an address on "Manufactured Portland Cement and Its Relation to the Development of Oklahoma." He said in part:

"Oklahoma, being the youngest of all States, has a great advantage over the older States in many respects, especially since Portland cement has made such wonderful strides. Railroads, which are the arteries of commerce throughout the width and breadth of this new State, can be built safer, the bridges made everlasting, and once a culvert or bridge is properly built of Portland cement concrete the ponderous locomotive with its precious load of human lives is rushed along over these concrete bridges with the same speed and safety as when running the open prairie.

"Each farmer in this broad land spends, yes uselessly wastes, money each year that would soon make him independent. Why doesn't he use everlasting fence posts, concrete storm and root cellars, and why doesn't he build concrete silos? These are needed by our farmers, and each step adds to the individual and collective wealth. And there is no better way a State can secure great influence. Every town and city has at its command, for both present and future building requirements, the most flexible, permanent and lasting of all the most fireproof building material. Our cities can be held together by means of cement, our sidewalks, curbs, gutters and streets be of solid concrete, while our fireproof buildings rear their heads far above the street.

"And in close proximity to these cities and towns using cement we usually find, and always within the borders of our new State, the materials required for any class of concrete, sand, stone, gravel, etc., as well as Portland cement. All these being found and used within our borders, the use of which creates a local demand for skilled and unskilled labor. This means added wealth by keeping the money home instead of sending it elsewhere. I dare say there are thousands of citizens of Oklahoma who do not know their own State has two modern Portland cement plants in operation—well you have—and with ample capacity to supply the entire requirements of our State.

"And to the Oklahoma users of Portland cement here assembled allow me to impress upon you the

vital point. On you rests the greater part of this task of building up our State on a firm and everlasting foundation. May you make no mistakes as our new State forges ahead; every step in advancement will be watched by others, and soon we will have the greatest State in the Union."

Mr. Patterson then called on C. A. P. Turner, of Minneapolis, for some remarks. Mr. Turner gave some of his experience with concrete and especially working concrete in cold weather. He said to use boiling water when working in cold and make the aggregate wet and hot before adding the cement to get a concrete that will not set too soon. He then spoke on organization and thought it necessary for one to promote the industry. He believed that by organization a great many of the evils which exist in the business can be overcome. The organization should be influential in drawing up the building ordinances of the cities. He told of the appropriation that had been made by the government to draw up specifications for concrete work, but unfortunately they had left off of this committee people best posted on the subject of concrete. They have been preparing maps on deposits of sand and aggregate all over the country. There should be men of experience on this committee. The concrete industry should be represented by its workers and this can only be accomplished by organizations. The cement users must help one another.

The discussion then ensued on whether the Oklahoma association should include other States or limit its membership to the cement users in the State.



D. C. PATTERSON, OKLAHOMA CITY, SECRETARY OKLAHOMA CEMENT USERS' ASSOCIATION.

R. E. Brownell made a motion to organize a cement users' association of Oklahoma, the name to be determined by the committee and invitation extended to people engaged in the cement business to join. E. M. Walton, of Kansas City, made a motion to elect temporary officers and placed D. C. Patterson's name for temporary chairman. Mr. Patterson was elected. F. W. Carlin, of Pawnee, was elected temporary secretary. It was decided that a registration fee of \$2 be charged, the same to apply on membership in the association.

The meeting then adjourned so that the registration could be taken up and the fees paid.

TUESDAY EVENING.

The Commercial Club of Oklahoma City had given their rooms for the purpose of having a stereopticon lecture on reinforced concrete. C. A. P. Turner, of Minneapolis, was the principal speaker, and his talk was illustrated by pictures of construction work in all parts of the country. There was a large attendance of architects and engineers, as well as people who are interested in building.

An entertainment feature of this program was the impersonations and readings by Nelson Darling, the popular lumberman of Oklahoma, who has made such a name for himself as an entertainer.

WEDNESDAY AFTERNOON SESSION.

The meeting was called to order by Chairman Patterson, who introduced Charles N. Gould, the State geologist, who spoke on "The Portland Cement Material in Oklahoma and Its Relation to the Fuel Market and Transportation." Mr. Gould spoke extemporaneously. In his talk he used a set of maps, which showed the rock deposits as well as the fuel in the oil fields of the State and their close proximity. His lecture was very interesting and everybody present enjoyed it thoroughly. Professor Gould has made a great study of this subject in Oklahoma and is rendering valuable assistance in the development of the geological department.

M. J. Reinhart then read a paper on "Reinforced Concrete Structures."

REINFORCED CONCRETE STRUCTURES.

By M. J. REINHART.

Concrete construction has been recognized for the past half century as one of the most efficient and cheapest building materials yet developed by man. A few years past the heavier, plain concrete construction was used largely for massive structures, such as bridges, abutments, foundations, etc. The forms used were heavy and expensive; concrete was found to have great resistance to simple pressure, but soon became known to have very little resistance to tensile strains or bending. It was soon found that by introducing steel to reinforce the concrete, and thus supplying strength where it was lacking, that the size of the members of the structure or any part of it could be greatly reduced. Concrete reinforced is therefore the most logical construction for buildings where permanence and economy are prime requisites.

The economy in reinforced concrete is wholly due to the fact that steel is introduced on the tension side of the members or beams of the structure to give it the elastic properties and tensile strength wholly lacking in the material itself. The fact that the concrete will take about ten times as much compression as tension enables us to place within the material steel bars or fabrics of high tensile strength to make the members develop the same tension as the concrete will develop in compression, and greater reduce the cost by so doing.

The speaker does not intend to represent concrete construction to be as low in first cost as ordinary wood or non-fire resisting materials, but for structures where any degree of permanence is desirable, there are but three well known forms of construction: The slow burning mill construction, steel construction and reinforced concrete construction. In the slow burning mill construction one of the advantages is its low first cost, ease of erection, etc., but it is not fire-proof, and a fire of any consequence will wholly destroy the interior of such buildings and cause the brick walls to have to be torn down and rebuilt, thus the building in case of fire will result in a total loss to the owner.

The steel frame building, when properly fire-proofed, is a very desirable structure and deserves due consideration, but in this type of building a special effort must be made to fireproof the steel, but it will be a very permanent structure in case this is properly done. There is a great deal of discussion among builders and engineers as to whether this is as good, better or equal to reinforced concrete, but the initial cost is far greater than for any of the three, and it is for this reason largely that reinforced concrete is replacing this second type of construction.

In the last, or reinforced concrete construction, no special provision has to be made for fire-proofing. There is but one material used which does not improve with age and this is the steel which is entirely enveloped and protected so that it cannot deteriorate or be heated enough in case of fire to lose its elastic properties or tensile strength.

Furthermore, in this type of building the structure is monolithic, or in one piece, and no special provision has to be made for beams bearing on the walls or columns as in mill construction, or difficult connections as with the steel frame.

Reinforced concrete buildings are rigid and will resist shock in a way wholly unknown in any other type of building.

The first cost is very low compared to the superior merits of the structure itself, and it can be erected with great rapidity and largely with cheap and local labor.

The advantage that is claimed for reinforced concrete construction is as follows:

Very low first cost, superior fire-resisting qualities, marked permanence, rapidity of construction and low insurance rates.

The speaker will not dwell longer on the advantages of this class of building, but will pass on to the design, and will endeavor in a most elementary way to explain the theory upon which the design of the simple reinforced beam is based. Scarcely do we get started in the designing of a building before we have to take care of the tendency to bending or flexures in the column footings, the columns themselves to reduce the size must be reinforced to prevent buckling and bulging, the beams and slabs are entirely dependent upon the steel for their carrying power, and even the walls, if of concrete, must be reinforced to prevent temperature checks and for wind pressure. Thus it seems to the speaker that the proper distribution and placing of the steel in both the design and construction is the most important part of the work in connection with the building.

There is a mistaken apprehension on the part of some as to the real function of steel in concrete, it being understood that the steel itself must furnish the resistance to bending. In fact one of our first systems of floor reinforcement consisted of deep, flat bars almost as deep as the slab was thick, spaced at intervals to carry the load. This made little use of the concrete for compression and they were soon practically driven out of the field by engineers making designs one step in advance of their theory.

In a properly designed beam or slab just steel enough is used to develop the compressive strength of the

It was then decided to elect permanent officers for the association and they to perfect the organization of the association. H. G. Newcomb nominated R. E. Brownell, of Oklahoma City, for president. Mr. Brownell was unanimously elected. D. W. Patterson, of Oklahoma City, was the only nominee for secretary and he was unanimously elected. H. G. Wick, of El Reno, was nominated for treasurer and elected.

It was then announced that the Builders' Club of Oklahoma City would give a Dutch luncheon in the evening at their rooms to the members of the association.

The remainder of the meeting was spent in heart to heart talks by the various men present. Mr. Brownell said: "We rub up against all kinds of competition. We must help each other to do good work and organization is the only way we can help one another. We must have papers read at our meetings and must see appliances for working concrete."

Mr. Newcomb said: "I hope the time will come when every cement user in the State of Oklahoma will belong to our association. I hope the time will come when the people of the State will only give work to the members of our association."

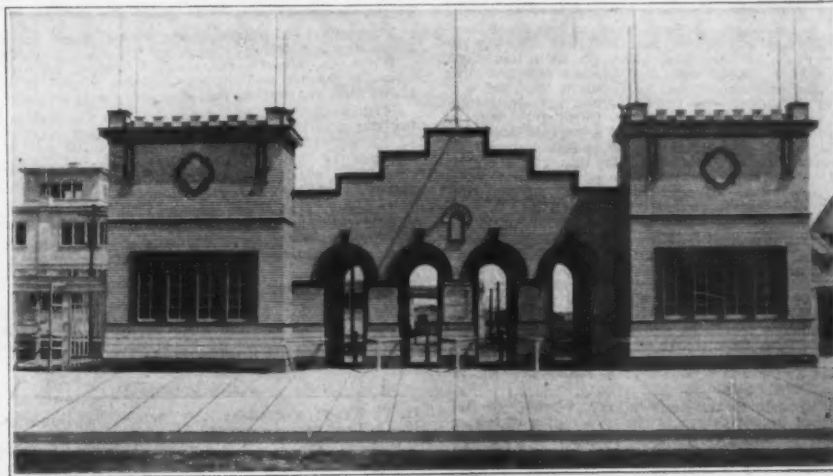
Mr. Pritchard then moved that the three officers elected be the executive committee and be empowered to appoint a committee to promote the association.

The meeting then adjourned.

THURSDAY AFTERNOON SESSION.

The meeting was called to order by President Brownell. He called on E. M. Walton, of Kansas City, for a talk on the manufacture of concrete blocks. Mr. Walton said in part: "Twenty-two years ago concrete blocks were made of a dry mixture and are now as hard and as impervious to water as a monolithic wall. Cement is not an artificial article. Neither is sand nor crushed stone, and I do not like to hear people speak of concrete as artificial. It is not artificial in any way. In making concrete blocks use a one to four mixture. Some use one to five or one to six. Any box will make a block if the material is poured into it. Be honest with yourselves. Do not skin your mix for you injure yourself. I have had a good many questions asked me about waterproofing. I now use and recommend an addition of 15 per cent of hydrated lime for concrete blocks. Hydrated lime is a material that fills the voids in concrete. Concrete is kind of building materials. It needs to imitate nothing."

H. G. Newcomb, of Shawnee, then made a talk on "Failures in Concrete and How to Remedy Them." He said: "Failures are due half to ignorance and the other half to ourselves. In Sulphur Springs a man put down a sidewalk who had never heard of, much less used, an expansion joint. Who was to blame in a case of this kind when the sidewalk cracked? Engineers are to blame in many cases, as they do not make specifications as to the materials to be used. Architects as well are to blame many times, but the contractor is always blamed. To skin a job is as bad as taking money out of a man's pocket. I want to see the standing of this association so high that when a piece of concrete work is



ENTRANCE TO FAIR GROUNDS, OKLAHOMA STATE FAIR, OKLAHOMA CITY, WHERE CONVENTION WAS HELD.

used some member of this association will be called on to do it. We cannot regulate prices, but we can regulate brains. Put brains into your work. Have books and papers read. I would like to see the concrete business on a standard with other professions."

A paper was then read by F. H. Tidman, president of the Telephone and Electric Light Company, of Oklahoma City, on the subject of "Concrete Telephone, Telegraph and Electric Light Poles."

'CONCRETE TELEGRAPH, TELEPHONE AND ELECTRIC LIGHT POLES.

By Frederick H. Tidman.

Electricians whose business requires the transmission of current for various purposes, have long sought to replace the wooden pole with something more durable, and in the early history of electric science resorted to the use of iron poles. Such poles must give out quickly and require constant painting, hence the desire for something more durable and less expensive to maintain.

The cement or concrete pole appears to fill the requirements, excepting that in a solid form it was too heavy and expensive to use. I, therefore, experimented with a hollow pole, which proved to be more satisfactory than our expectations. Therefore, I took out patents covering various forms of poles and moulds for making such poles quickly.

J. M. Brown, superintendent of the Oklahoma Gas & Electric Co., erected and fitted up many of these poles and reports that they are standing the line strain and weather better than any wooden pole on the market. The standard pole in use at Oklahoma City is 35 feet long, 7 inches top and 10-inch butt. Thickness of concrete, 2 1/2 inches. Weight of pole 1,600 lbs., dry. The manufactured cost of such pole is \$8.50 f. o. b. factory, without any profit. The cost of cedar poles of same dimensions as above is about \$7. The life of wood in this country is 10 years, that of concrete, say 50 to 75 years.

The committee on resolutions was appointed. They were Messrs. Rhinehart and Pritchard.

A paper was then read by L. E. Simmons, of Alva, on "Are Cement Blocks to be Relied Upon for General Construction."

ARE CONCRETE BLOCKS TO BE RELIED UPON FOR GENERAL CONSTRUCTION?

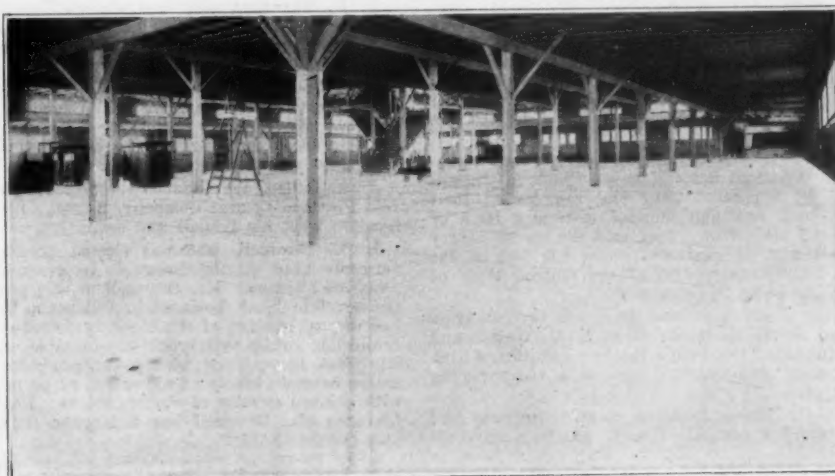
By L. E. Simmons.

Are concrete blocks to be relied upon for general construction. If properly made, cured and laid we would say yes; if not, emphatically no. There is no material that has had a place for general construction since the Israelites crossed the Red sea that has been so badly abused and misused as the cement block. Lumber cannot be adulterated; clay brick are not questioned as to the amount of clay or other parts used, and natural stone is usually the same in every age or clime, but blocks are looked upon as lacking in sufficient cement to make a good building material. I have had men come into my yard and look at blocks well made, with a 4 to 1 mixture, and cured for months, and then ask if they were 8 to 1. The truth of the matter is there is not one man in ten who knows a good block when he sees it. The people are skeptical about blocks. Last summer a man of intelligence came into my yard, and as it was about to rain, asked if the blocks would wash down and fall to pieces. I told him emphatically no, and immediately proceeded to give him a brief lecture on the superiority of blocks for building purposes. I said to him, "the longer they are made the better they become," etc. He went away apparently convinced that blocks were all right. I never fail, when I get hold of a man like him, to leave no doubt in his mind as to the merit of blocks that is if I am equal to the occasion.

Dwellings can be erected that are both fine and satisfactory. I have about completed a five-room house of blocks. It has white corners, a water table and a fine cornice, surrounded on all sides by frame buildings. It has created no little talk. One of my neighbors told a man it was as pretty a house as he ever saw, and if he could sell his he would have a stone house, too. I have had hundreds of inquiries as to its cost, durability, etc. A man who was about to build a home came to me for blocks. He said his wife was in favor of a stone house, and he came to get information. I told him a stone house would stand forever; that his children would have something to leave as a legacy and relic to their children; that insurance was less; they were cooler in summer and warmer in winter; that they were dust and mouse proof, etc. He went away seemingly entirely convinced as to the merit of the blocks. In a day or so he came back, saying the lumberman had told him the block houses were damp and cold, and he had decided to build a frame. I said they can be stripped and lathed and plastered, the same as a frame building, or I can build you a continuous air space if you choose. He bought rock for a foundation, but I could not convince him the block houses were not damp. A block manufacturer told me some months ago he was making rock for a house. Said he: "Mr. Mc. came around one morning and said, 'see here, sir; you are not putting enough cement in these blocks for a house.'" The manufacturer got some bluing and put in the water. The next day he came around again, looked at the blocks and pronounced them fine. The block man laughed and chuckled to think he had so cunningly deceived his customer. The strangest thing about it is, he had block machines for sale, and should have been working the business up instead of down. Under conditions like these the block cannot be relied upon for construction of any kind.

Blocks to give satisfaction should be thoroughly cured. I have in mind a barn that was laid up of blocks that were made only three days. In fact, they were never piled up, but were taken off the ground where made. There were about five men there of whom had never laid a block at all, employed to lay them. As a natural consequence the walls cracked almost from top to bottom, and many a man has pointed to those scars and resolved never to use blocks for building purposes. Men who know, tell us cement blocks will shrink from a 64th to a 32d of an inch, and for this reason, should be thoroughly cured. My idea of the block yard is to always have sufficient blocks on hand to have some thoroughly cured, and never sell blocks that are not old enough. A cracked or defective block should never be allowed to remain in the yard.

Blocks should be properly laid in the wall. A brick man, who hated blocks (as brick men usually do), told me all it took to lay blocks was a stout back and weak



INTERIOR MACHINERY HALL, OKLAHOMA STATE FAIR, OKLAHOMA CITY.

mind. Another said any fool could lay blocks. I do not agree with either of these gentlemen, for a man should have had some experience before he is permitted to lay up a building. A man close to my yard concluded to change his plans, and had no difficulty in taking one block off another, although they had been laid about a year. They were laid in lime mortar. The nature of lime and cement are so different that there is no union or bond between them. When laid in strong cement mortar, after the block is thoroughly wet, a union is formed that makes the wall a perfect monolith.

The block is no weaker in the joint than elsewhere. A wall constructed of properly made and cured blocks will stand indefinitely. A cyclone would find a worthy antagonist in such a wall and an ordinary strong wind would not move it a fraction of an inch.

Cement blocks are all right. The block is a practical building material. Mr. Edison, the wizard, may construct a set of molds costing \$20,000 or \$25,000 that will make a house in less time than enough blocks can be made and cured, but for the man of ordinary means the block is the most practical and satisfactory method. Any angle can be made; any thickness of wall, from a few inches to a foot, or more; any design, from a plain face to a blushing rose, or wrinkles or crinkles. In fact, the concrete business is in its infancy. It will probably be years before it is really brought to its full measure of usefulness.

The block appeals to the home-builder, whether in the crowded city or on the farm; in the cold region of Maine or the land of perpetual spring and summer. It is equally fitted for the house of one or two rooms or the seven-story flat. The day is coming when the entire house will be of concrete or as nearly so as practical. Cement blocks will be riding up and down this country, not, perhaps, on a first-class ticket, but neatly piled up in a boxcar. It is something like the old lady said when the cyclone picked her chicken, "This is truly a day of wonders." No man knows the future. The concrete age has come. And leading this great van is the block, large or small. The forests are fast being consumed, iron is too expensive and rusts too badly; the time of tents has gone; the sod house and dugout, so familiar in pioneer days, have outlived their usefulness; we are beyond those times. We are moving into an age in which the best alone can stand the test—the survival of the fittest. Concrete is here to stay. It will stand the test and friction of time, and in conclusion, let me close where I started, and boldly and emphatically say that the block can be relied upon for general construction.

CONSTITUTION.

ARTICLE 1. NAME.

This organization shall be known as the Oklahoma Cement Users' Association.

ARTICLE 2. OBJECTS.

Section 1. The promotion of a better knowledge of the proper use of cement.

Sec. 2. To bring into closer social relations all persons interested in any way in the use of cement products.

ARTICLE 3. MEMBERSHIP.

Anyone interested in or engaged in the use of cement shall be eligible for membership.

ARTICLE 4. OFFICERS.

The officers of the association shall be a President, First Vice President, Second Vice President, Secretary and Treasurer, who shall be citizens of the State of Oklahoma and whose duties shall be those usual to such officers.

The officers shall constitute an Executive Committee which shall have full authority to conduct all business of the association when not in session.

ARTICLE 5. MEETINGS.

The Association shall meet in the month of February of each year, the time and place to be fixed by the Executive Committee.

ARTICLE 6. AMENDMENTS.

Amendments to this constitution must be proposed in writing at least thirty days before the annual meeting, a two-thirds vote of the members present at such meeting shall be necessary for the adoption of the proposed amendment.

BY-LAWS.

ARTICLE 1. DUES.

Section 1. The annual dues shall be two dollars, payable in advance.

Sec. 2. The annual dues shall be payable at the annual meeting of the Association in February of each year.

Sec. 3. Members may be dropped from the roll thirty days after the annual meeting for non-payment of dues.

ARTICLE 2.

The Secretary shall draw all vouchers for the payment of money and the Treasurer shall pay such vouchers when attested by the President.

ARTICLE 3.

Officers shall be elected for one year at the annual meeting and shall assume office immediately at the close of the meeting and shall hold office until their successors are elected.

As the constitution provided for vice-presidents the following were elected: First vice-president, P. T. Tarwater, of Frederick; second vice-president, H. G. Newcomb, of Shawnee.

The committee on resolutions then reported the following resolutions:

RESOLUTIONS.

We, the Committee on Resolutions wish to submit the following for your approval:

WHEREAS, The State Fair Association has very courteously extended to this Association the use of its buildings and grounds, and aided in many ways in the success of the exhibit; and

WHEREAS, Mr. Keller, a member of the Board of the Fair Association, has given his time and valuable assistance, and

WHEREAS, Wylie & Co., printers, have furnished us with neat and well arranged programs; and

WHEREAS, The Oklahoma Portland Cement Company supplied beautiful, and attractive badges for the members; and

WHEREAS, We have been greatly enlightened and benefited by the various lectures and discussions presented at the meetings; and

WHEREAS, Exhibitors have shown great interest in advancing knowledge in working and uses of cement; and WHEREAS, Messrs. Patterson & Cooper have rendered valuable service and shown untiring efforts in bringing about this convention and the organization; and

WHEREAS, The Oklahoman has been faithful in reporting our meeting and their representative very attentive to our needs; and

WHEREAS, The Builders' Club of Oklahoma City kindly called the members from labor to refreshments in the elaborate spread of last evening; be it

Resolved, That this Association extend to each and all of the parties mentioned above a most hearty thanks for their interest, as shown by their efforts in aiding us to a better knowledge of the uses of cement, and an enjoyable time.

Signed, on behalf of convention, by

M. J. REINHART,
C. M. PRITCHARD,
Committee.

The meeting then adjourned.

MEMBERSHIP.

H. W. Ekhoft, Chickasha.
R. E. Brownell, Oklahoma City.
S. A. Brown, Oklahoma City.
D. Gable, Coyle.
F. W. Carlin, Pawnee.
J. W. Gates, Amorita.
C. M. Pritchard, Oklahoma City.
Barrett Bros., El Reno.
H. G. Newcombe, Shawnee.
G. A. Smith, Oklahoma City.
A. B. Olson, Chandler.
W. J. Gelmshaw, Oklahoma City.
T. L. Peterson, Oklahoma City.
J. B. Swartz, Manitor.
W. Spitzer, Lawton.
L. E. Simmons, Alva.
T. E. Caplinger, Miami.
J. Ives, Wautonga.
T. J. Hodges, Newkirk.
Verdin Paying Co., Verdun, Okla.
S. J. Wick, El Reno.
A. M. Thompson, Anadarko.
J. T. Kimbrough, Oklahoma City.
C. N. Horn, Fay.
W. F. Widmer, Oklahoma City.
Oklahoma Portland Cement Co., Arda.
P. T. Tarwater.
Frederick Concrete Stone Co., Frederick.
P. T. Tarwater, Frederick Concrete Stone Co., Frederick.
Reinhart & Donovan, Oklahoma City.
G. G. Schroger, Snyder.
A. B. Slaybaugh, Mountain Park.
J. S. Wylie, Oklahoma City.
F. H. Halliday, Fairfax.
Robt. Penneck, Romona.
S. M. Gumstead, Lapulpa.
J. O. Stead, Oklahoma City.
L. P. Bowly, Oklahoma City.
B. E. Swope, Oklahoma City.
W. Wallace, Carmon.
W. F. Mayhood.
J. O. Sheard.
F. H. Tidman, Oklahoma City.
Illinois Gravel Co., Princeton, Ill.
E. M. Walton, Kansas City, Mo.
C. A. P. Turner, Minneapolis, Minn.
Ivan de Mitkiewicz, Independence, Kas.
G. W. Young, Independence, Kas.
B. M. Burns, Dallas, Tex.
Houston & Woss, Apache.
A. S. Gray, Chickasha.
J. Itzen, Chickasha.
J. W. Head, Apache.
T. E. Caplinger, Miami.
J. B. Swartz, Manitor.
A. Field, Okmulgee.

EXHIBITS.

The Ashland Steel Range and Manufacturing Company was represented by G. W. Eby, who has a United States standard concrete mixer and demonstrated this to the visitors.

The Arrowsmith Concrete Tool Company was represented by Grant Kerr. Mr. Kerr had a section of a cement sidewalk, using sand for concrete, and demonstrating the use of the Arrowsmith tool for finishing.

The F. W. Carlin Concrete Works, Pawnee, had samples of crushed granite and stone on exhibition. This is part of their concrete business.

The exhibit of N. J. Morehouse was in charge of their southwestern agent, A. H. Dunn. He had a No. 9 Coltrin mixer in operation and also demonstrated the new Miles concrete block machine.

The Peerless Brick Machine Company was ably represented by their genial manager, L. V. Thayer, who not only demonstrated but sold many Peerless brick machines. He made brick on the machine all day long and there was always a crowd around his display; still that is not to be wondered at, for Mr. Thayer is an attraction in himself.

The Dewey Portland Cement Company was represented by Assistant Sales Manager Frank A. Thomas and M. W. Shepard. They had samples of their product, both raw and finished materials, bags of cement and briquettes. They said the use of Dewey was practically demonstrated under the feet of the visitors, 50,000 square feet of the concrete floor of the building using Dewey cement.

The Ash Grove Lime and Portland Cement Company had an exhibit in charge of E. M. Walton and E. F. Muhler. They talked the fine qualities of Ash Grove cement and hydrated lime as a waterproofing proposition.

The S. H. Hanson Builders' Supply Company had an exhibit of a complete line of building materials and specialties of all kinds. The exhibit was in charge of W. M. Fowler and H. E. Conant, manager of the Tulsa office. They handle about everything that can be put into a building.

The Hayden Automatic Block Machine Company, Columbus, O., was represented by W. B. Simpler,

who was superintendent at the factory. Mr. Simpler had the Hayden machine in operation and made blocks while you waited.

Charles W. Bradley, manager of the Anchor Concrete Stone Company, Rock Rapids, Ia., had an Anchor block machine on exhibit and in operation. The tied wall block attracted considerable attention among the visitors and Mr. Bradley was pretty well talked out by the time the exhibit was over.

The Eclipse Concrete Machine Company, Wichita, Kan., was represented by Mr. Ree, the patentee of the Eclipse machine, who made blocks for the visitors.

The Kansas City Structural Steel Company, Argentine, Kan., was represented by C. M. Pritchard, manager of the Oklahoma City office, and demonstrated the use of steel construction with concrete and reinforcement. He had a number of pictures of buildings, which his company has designed, and blueprints showing the particular design of construction they used.

The Universal Stone Crusher Company was represented by their southern agent, H. G. Chamberlain, assisted by J. W. Fellows and F. H. Grimes. They had a Universal crusher in operation, driven by a gasoline engine, and crushed rock for the entertainment of their visitors.

Rhinehart & Donovan was represented by M. J. Rhinehart and G. W. McCarthy. They had samples of reinforcing, metal lath and metal partitions; in fact, everything for a fireproof building. This concern are designers and engineers of concrete construction, and are located at Oklahoma City.

The Oklahoma Portland Cement Company, of Ada, Okla., had a large display, consisting of bags of O. K. cement and the raw materials as well as the finished product. They also had a number of pieces of cast-work in which O. K. cement was used. Their exhibit was very attractive and they always had a large crowd of interested visitors. The company was represented by W. L. Whitaker, Hebor Harder and C. R. Hemingway.

The Gabriel Concrete Reinforcement Company, of Detroit, Mich., was represented by M. J. Sullivan, their Oklahoma City representative. They had samples of the Gabriel reinforcement system and had blueprints showing a span of reinforced concrete, in which their system had been used.

The Illinois Gravel Company, Princeton, Ill., was represented by President C. F. Scott, who demonstrated the use of their sectional steel form in multiples of five-foot centers for bridges and culverts. Mr. Scott had a working model of this as well as a working model of a fence post mold.

The Demarest Manufacturing Company, of Enid, Okla., had a New State concrete mixer and block machines, as well as the Twentieth Century concrete shingle machine, in operation.

NOTES OF THE MEETING.

The Western States Portland Cement Company kept open house in the Threadgill Hotel, where their staff dispensed hospitality. Those on hand were Ivan de Mitkiewicz, of the publicity bureau of this company, assisted by E. H. Miller and G. W. Young.

B. M. Burns, representing the Texas Portland Cement Company at Dallas, Tex., was on hand to represent the Lone Star brand of cement. Mr. Burns is one of the well posted young men on the subject of cement, as he has been for a number of years connected with the operating department of the various plants in the southwestern territory.

P. F. Tarwater, who was elected vice-president, says that business with him last year was very good and the outlook for the coming season is even better in his locality than it was last year.

E. L. Benedict, of the firm of the Benedict-Parmelee Company, Oklahoma City, was on hand to talk machinery. His company is pushing a power brick and concrete block machine, and he said that they will in a short time have the plant in operation.

J. A. Ballou, the Oklahoma representative of the Iola Portland Cement Company, Kansas City, was on hand to meet his friends and customers.

R. E. Brownell, who was elected president, was formerly head of the Brownell Improvement Company, of Chicago. Mr. Brownell is now engaged in the concrete block business in Oklahoma City. He had several samples of the block he manufactures on exhibition, which attracted considerable attention. His plant is equipped with power machines and he makes concrete blocks of any color, as he faces them with crushed granite of various colors. Besides this business, Mr. Brownell has a large crushing plant near Oklahoma City.

F. W. Carlin, of Pawnee, was formerly engaged in the concrete business in Nebraska, and is a member of the Association of Cement Users of that state. He is an enthusiastic association man and his knowledge greatly assisted in the formation of the Oklahoma association.

LOUISVILLE CONVENTION OF RETAILERS

Tenth Annual of the National Builders' Supply Association Was a Pleasant Occasion with a Whole Lot of Sound Business Promotion Worked Into It.

LOUISVILLE, Ky., Feb. 11.—The tenth annual convention of the National Builders' Supply Association has just completed a two days' session at the Seelbach Hotel. The principal retailers of builders' supplies throughout the United States were well represented, and the representatives of the leading manufacturing interests of Portland cement, plaster, lime, clay goods and steel specialties, such as are usually handled by the concerns who supply building contractors with their materials, were in evidence. The party was about 200 strong, and a more pleasant crowd of business gentlemen was never collected on any former occasion. The local interests in the supply line did themselves proud as hosts of their brethren throughout the nation, and the large number of holdovers at the Seelbach indicated that it was good to be here.

Quite a number of manufacturers of materials had attractive exhibits of their wares in the foyer of the convention hall on the tenth floor of the hotel.

During the interregnums which occurred between the meeting there were theater parties, smokers and entertainments of every character, closing the last night with a grand annual banquet, which has come to be considered a fixture in the material business of the country. The code words of the annual meeting were "reciprocity" and "co-operation." Probably these two words were used oftener than any others at the meetings, in the lobby and at the various places of entertainment and amusement.

The business sessions of the convention were well attended by the members present, and from that standpoint it was a working convention.

A number of the familiar pillars of the business were missed, some of these gentlemen were traveling in foreign parts, others were at the southern winter resorts with engagements that made it impossible for them to be present, and in a few instances a gloomy report of "sick at home" was heard.

This association is a popular one. Three cities have made a bid for the next convention, and these have been passed up to the executive committee for action, they are Atlanta, Ga.; Detroit, Mich., and Toledo, Ohio.

OPENING SESSION, FEBRUARY 9.

The opening session of the convention was called to order by President Gordon Willis, as is his usual custom, promptly on time. James F. Grinstead, mayor of Louisville; Fred W. Keisker, president of the Commercial Club, and Owen Tyler, leading supply dealer of Louisville, were on the stage.

In calling the convention to order, President Willis asked Owen Tyler, chairman of the local committee on arrangements, to introduce Mayor James F. Grinstead, who made the address of welcome on behalf of the city. Mayor Grinstead said in part:

"I hope your visit to Louisville will be a pleasant one, and I am sure we will try to make it so. Your chairman has apologized for a small attendance, but when I look over this body of men, which is not so small, after all, I am sure if there is anything lacking it must be in numbers and not in quality.

"Your business is a most important one and of the greatest importance to Louisville at the present time. We are glad you are here because we are always glad to see our friends; we are glad you are here because we know you are going to help us."

President Willis then asked Chairman Tyler to introduce President F. W. Keisker, of the Commercial Club. President Keisker said in part:

"We are glad to have you with us because your presence indicates your interest in the growth of Louisville. We have made great strides in the last few years and building operations are an unflinching index to such development. Our business districts bear evidence of this and also the residence portions of the city.

"Particularly the upbuilding in the downtown districts have attracted outside capital. I doubt not that you are fully in touch with these things and that your representatives are now on the ground to see that nothing is wanting in your lines. We believe you will have a good time, and if there is anything you want, let us know."

President Willis then asked Mr. Tyler if he would not say a few words as chairman of the local committee. Mr. Tyler said:

"I feel like I might be 'butting in' here. Here Mr. Keisker comes along with a lot of notes he has prepared"—aside—hand me those papers, will you (to Mr. Keisker), "and your president has a nice address, all written out, and I am left out.

"Of course, if Mayor Grinstead and I had been left alone, we might have tried it out together, but we did that once before and I lost out.

"Anyway, I want to tell you I am glad to see you here. Louisville is where I was born, where I want to live, and where I hope to be allowed to end my days. And after you are here for a little while, I believe you will feel the same way.

"The weather isn't as pleasant as it might be—as it has been or as it is going to be. But what difference does that make? We have a good roof over our heads, a well-stocked larder downstairs and—

"We're always glad to see our friends in Kentucky."

THE PRESIDENT'S RESPONSE.

As president of the National Builders' Supply Association it is my pleasure and duty to respond to the kind welcome so courteously extended by you. Our Louisville members presented the claims of their



FRANK S. WRIGHT, NEWLY ELECTED PRESIDENT.

city for our consideration as a place for holding this convention with so much earnestness and sincerity that it was impossible to refuse them, even had there been the slightest intention on our part to do so. Several other cities wanted us, but Louisville easily distanced them and "won under a pull," to use an expression familiar in this locality.

Kentucky is famed for its production of tobacco, whisky and fine horses. It is not necessary to add that it is also universally known for its beautiful women. A stroll through the streets of this magnificent city would convince anyone of the justness of the reputation. I am not going to forget to remark that my acquaintance with and knowledge of the men of this community, and particularly those whom I have had the pleasure of meeting today, convinces me that Kentucky also produces a high type of man. The grand old state from which I come—Missouri—owes Kentucky a debt of gratitude for at least one governor and many other distinguished men who claim Kentucky as their native state.

Many of our modern cities owe their position and advancement to such organizations as Mr. Keisker represents, and I trust that your splendid city will continue its advancement and development with the beneficent coöperation of the Louisville Commercial Club.

Gentlemen, in behalf of the National Builders' Supply Association, I thank you for the hospitality extended and assure you it is deeply appreciated by every member.

AFTERNOON SESSION, FEBRUARY 9.

The main business of the convention was opened with all the delegates in their places.

Keynote Address by President Willis.

Gentlemen: It is my pleasure and honor to again address the members of the National Builders' Supply Association at this, the Tenth Annual Convention. We have in each preceding year shown increasing strength and I am happy to say that 1908 has kept up the good record. Our membership has grown during the past year in a very satisfactory manner; in fact, beyond my expectations, in view of the business conditions that we have experienced. Our organization continues to advance not only in numbers but also in bringing together more closely the manufacturers and the dealers. A feeling of confidence exists between both, due to this association and we are working harmoniously together for the one object—success. This condition has been attained largely through hard work on the part of your Executive Committee and our two Secretaries, and I do not lose sight of the assistance given by the members, the majority of whom are active and loyal and do not overlook an opportunity to say a good word in behalf of the organization.

Right here I want to say again to the members, what I said at a previous convention; don't leave to the officers all of the work. Talk to your associate dealer of the benefits of the National Builders' Supply Association. Induce him to join and also to go to the meetings. And I repeat another previous request; don't come to the annual convention solely to learn and get something from your fellow dealer. Be willing to give as well as to receive.

I think it is hardly necessary to dwell upon the benefits to be derived from membership in our organization, as the subject is almost threadbare, from the numberless times that it has been handled and for this reason I will not take up your time in talking upon that subject; particularly as I know that it will be well taken care of in the reports of our able Secretaries and no doubt may be touched upon by some of those whose eloquent addresses you will enjoy later.

I will therefore briefly state that the National Builders' Supply Association has accomplished its purpose—is now and will continue to do so. Whenever a man completes a sale, pays a note, wins out in a scrap or fulfills an obligation, it is well understood, when we say in our expressive American words, that he has "Made Good." Our record shows that we have accomplished our purpose and have "made good" in every respect. Why should not each of us adopt this maxim, Think of it. "Make Good." It means success. It applies to the manufacturers and to the dealers. The bank, it matters not what its capital and surplus, must "make good;" the clergyman, the statesman, the merchant, and on down through the list to the lowest type of labor; each must either "make good" or fall and fall by the wayside. Gentlemen, I think these two words are worthy of careful consideration and thought. They will guide us in our business transactions and in our social life as well.

I desire to say for the information of the members, that in selecting Louisville as the city in which to hold our Tenth Annual Convention, one of the reasons your Executive Committee had in mind was the advisability of meeting in a Southern city, hoping thereby to induce a larger attendance from the South and in consequence an increase in membership from that section. I believe that the people of the North do not realize the wonderful growth of the South in the last 20 years. The figures are startling. I quote from statistics. The increase in population is 65 per cent; capital in manufacturers, 716 per cent; products of manufacturers, 470 per cent; capital in cotton mills, 1169 per cent; cotton used, not produced, 675 per cent; farm products, 240 per cent; mineral products, 976 per cent; petroleum pro-

duced, 15,118 per cent; capital of National Banks, 248 per cent; deposits in State Banks, 649 per cent; expenditures for common schools, 285 per cent. The South is yet comparatively undeveloped. Such is its riches. Were its population as dense as some of the Northern states, it would have more than seventy millions of inhabitants, yet its population has increased, since the war, more than 140 per cent. However, even these figures, optimistic as they are, are surpassed by the records of other territory. Our new state of Oklahoma is growing beyond belief and the extreme Northwest is showing similar results. I give this reference first to show why we are holding this convention at Louisville and also to impress upon all of you the progress of our grand country and the wonderful possibilities existing for the building material man in particular. May not our organization grow in members, strength and influence as have the sections mentioned.

I presume that in my official position I am expected to go into details of what the Association has accomplished and what it proposes to do in the future. This I am not going to do, as I fear that I might encroach upon the ground of some speaker or speakers, who may follow with addresses and charge me with stealing their thunder. Therefore in lieu of statistical matter pertaining to our organization, I am going to diverge a little by speaking to my associate dealers. I will not be so presumptuous as to give advice, nor even to make a suggestion, as I realize that there are many of our members far more learned and experienced than myself, so what I shall say should be considered in other light than as advice.

The general business principles of a dealer are the same in all lines, be it in the building material, in hardware or in groceries. First is the organization, and this applies to the small as well as the large concern. By this I mean your employees. I realize how difficult it is to get good men, yet they can be obtained. You cannot get a good man for a small salary or if you do he soon either leaves you for a better position or drops into machine work and becomes a mere automaton. Encourage your employee to become interested in his work beyond simply doing what he is told to do. Teach him to be self-reliant and to use his judgment. He may make mistakes but he probably will not make the same one twice, and the mistakes he does make will be more than offset by the benefit that you will derive through his increased interest and usefulness. Be prompt and frank in commending him for good work and when he makes a blunder just remember when you were young and learning a business. Was it pleasant and encouraging to you to be reprimanded in strong or emphatic language, particularly before other employees? This applies to your chief man as well as to the office boy. Show an interest in your men and they will reciprocate with increased interest and effectiveness in their work.

While on this subject I would like to say a word about system and appearance. Have your office, warehouse, factory or plant present a good appearance. "Nothing succeeds like success," and when we visit an office or factory and see everything neat and in shipshape and the employees with bright intelligent faces, we are impressed and the combination effects us so that we want to do business with that concern. The cost of having your plant present a businesslike appearance is trivial and far more than justified by the results gained thereby. In days gone by there was an adage to the effect, that "the tailor don't make the man," but I want to say that conditions have changed and to succeed or "make good" one must give thought to his appearance, in person as well as in business.

Now, gentlemen, as this is the last address that I shall make in my present position to the active members of the National Builders' Supply Association, I cannot close without expressing my sincere appreciation of the honor which you have thrice shown in electing me your President. As I look through the list of members and note the prominent men, firms and corporations represented in this Association, I feel that my ambition should be satisfied. As I stand here looking into the faces of this body of business men, intelligent and distinguished far above the average, I am proud beyond the power of words to express.

In closing I desire to thank the members, individually and collectively, for their loyalty and interest in this organization. It is opportune to express my gratitude also to the Executive Com-



GORDON WILLIS, THE POPULAR RETIRING PRESIDENT.

mittee, every member of which has given a great deal of time and thought to this work for our benefit and I hope that the members will today show their appreciation by suitable resolutions of the work of this Committee, whose members have rendered such assistance to your President. Whether or not my request is acted upon I beg that you will not overlook our able Secretaries, Mr. Harry S. West and Mr. J. M. Wardrop. In speaking of the good qualities of one I refer to both. In my business experience I have met few men who possessed better traits. They are capable, energetic, diplomatic, faithful officials and gentlemen in every sense of the word. Both carry at all times a banner on which is inscribed words showing their devotion, "For the Good of the National Builders' Supply Association."

I thank you gentlemen for your attention and indulgence.

This was followed by the official reports of the secretary and treasurer and other routine business.



J. C. ADAMS, PITTSBURG, PA.

FRATERNALISM FROM A PRACTICAL STANDPOINT.

By HARRY P. BOYD.

When I was requested by my good friend, Mr. Willis, to address this convention, I cast about for a theme in the hope that I might suggest something new and of benefit to the members, as individuals, of this organization. Being strictly an organization man and appreciating that organization without fraternalism amounts to little, I decided to term my remarks, "Fraternalism from a Practical Standpoint."

In attending this convention, as well as conventions of other organizations with which I am allied, the remark has been frequently made to me by members that while the convention was a most enjoyable affair from a social standpoint, they failed to see what direct and individual results they were receiving.

Now, my argument is, in order to secure the individual benefits, there must be a more fraternal feeling existing between the members. The majority of us see each other once a year, renew old acquaintances and discuss business subjects, then bid each other farewell for another twelve months, and this in my opinion should not be. The friendly personal relations started during a convention should be continued, and as an example as to the benefits of this, I would cite a single instance that occurred to me personally.

During a former convention I had the pleasure of meeting one of our active members from another city and this casual acquaintance ripened into friendship which was displayed in the following manner: "A large municipal contract was awarded in our city to a contractor whose principal office was in the city of this gentleman. As soon as the award was made he not only wrote me a letter speaking in the highest terms of the contractor, thus relieving me from any anxiety from a financial standpoint as to his worth, but in addition gave the contractor a letter of introduction to me, and at the same time told him that he believed I could look after his requirements in Baltimore most satisfactorily. The contractor on his arrival in Baltimore presented his letter, and I was very glad to have been able to extend to him courtesies and advice, which had he been a stranger would have taken him much longer to accomplish. Appreciating this service, he placed his order with me. This contract extended over two years, and during that period I had the pleasure of supplying the material in my line. This is merely an illustration of my theory of practical fraternity and its far reaching benefits.

There is scarcely a city of any size in the union but what contractors are bidding on work in other cities, and as our organization is represented by a member from practically every city of importance, why should not this rule become general, and let the members extend the fraternal hand to his fellow members, and thus aid him in every way in securing business.

I don't see how this method could possibly work any injury to a member, as under agency arrangements among dealers, and supply men, each has his own territory as the distributor of this or that commodity. He cannot go into a fellow member's territory to sell goods, nor can a fellow member come in his, but he can be of assistance to his brother by giving him information about a contractor who has taken a contract in his territory, and at the same time extend an act of courtesy to the contractor, which he is likely to appreciate and remember.

The man who joins a business organization solely for the purpose of his personal advantage is very apt to find "The Grapes he is after are sour." His conception of fraternity is liable to experience a jolt. The trouble with him is he has not the right conception of fraternity, which is a combination of selves mutually working for a common cause. Individual self has no place in fraternalism. The man inoculated with this sort of virus has no idea of the broader sense of the fraternal spirit which animates an organization of business men. To such a man an organization means little; he pays his dues grudgingly because he thinks he is getting no benefits out of his connection with it.

What I would suggest as to how to demonstrate the advantages of our organization is that in future when contracts are awarded in different cities, as illustrated in my remarks, that the contractor be immediately supplied with letters of introduction to the dealers in the respective cities in which he has the contract and that the dealer be at once notified to this effect. The contractor

cannot help but feel flattered that his reputation has been heralded in advance and would feel no doubt a sense of gratification that he was thought worthy of such consideration and would certainly have very kindly feelings towards members who spoke well of him and who sent the letters. The dealer would undoubtedly appreciate the courtesy and would use the first opportunity to reciprocate, should a contractor from his city have work elsewhere.

This may be termed long distance fraternalism, but there is no limit to the reach of a brotherly act, and as stated before I should like to see some such sentiment adopted by this Association, believing that if it is done that the individual will soon realize the great benefits to be derived through their membership to the national organization.

IT'S UP TO YOU. By J. C. Adams.

You will find the words to which I invite your attention in the Third Book according to John-Henry.

When I read that book some years ago, in an endeavor to shorten the distance between Pittsburgh and Toronto on a daylight ride, I was seized with a series of internal spasms that doubtless gave the other passengers the impression that I had just recently escaped from an institution in our state located at Polk.

After finishing, however, I began to comprehend that the title to the edition, "It's Up To

wants. He doesn't have any real, earnest, burning, insatiable desire to do the thing that makes for success. In other words, the success a man attains, and this also applies to association work, depends largely upon the success he goes after.

The National Builders' Supply Association stands for a principle. If that principle is fair, is honest, and is right, and we are in real earnest to accomplish the fulfillment of our desires, there is no such word as fail.

But "It's Up To You." The Creator said if you have faith you can move mountains. This does not mean that by sheer mental reasoning you can develop sufficient faith to dump Pike's Peak onto the Flat Iron Building. Anyone who gets himself into such a state of mind is just a plain, unembroidered lunatic. However, any man, woman or child who makes up his mind that he can do a certain thing and believes implicitly in his ability to do that thing, and will stick right at it to the bitter end, can absolutely do it. This, of course, with the qualification that the thing desired is not beyond his mental or physical limitations.

The trouble with most of us is, and particularly those who don't succeed, that our desire is of a mild, incipient quality that is easily sidetracked or quickly satiated. We are pleasantly lulled to inaction by a comfortable meal, a hot fire and big cigar.

When a man is hell bent on doing a thing, and his purpose is honorable, you might as well get out of the road, he'll do it.

There isn't any man, or combination of men, there isn't any circumstances, or combination of circumstances, that can sidetrack or stop a man with a firm, irresistible, undeniable desire.

Emerson has said: "There is one mind common to all individual men. Every man is an inlet to the same and all of the same. He who is once admitted to the right of reason is made a freeman of the whole estate. What Plato has thought, he may think. What a saint has felt, he may feel. What at any time has befallen any man, he can understand. The thought is always prior to the fact; all the facts of history pre-exist in the minds as law. Every law in turn is made by circumstances predominant. The creation of a thousand forests is in one acorn, and Egypt, Greece, Gaul, Britain and America lie folded already in the first man. Nothing can bring you peace but the triumph of principle."

My second proposition is "Opportunity," and let us analyze the word. It is something which must be looked for, courted with eyes wide open. It never comes to the mentally inactive, the mentally blind. Mr. Dooley says: "Opportunity knocks at every man's door. On some's door it hammers till it breaks down the door and then it goes in and wakes him up if he's asleep, and afterward it works for him as a nightwatchman. On other men's door it knocks and runs away, and on the door of some men it knocks and when they come out it hits them over the head with a ax. But every man has an opportunity."

Opportunity means a fit time or occasion, and the fact that there have been as many manufacturers added to our membership this year as dealers, it seems to me, indicates that our principles have merit, and more than that it means that the merit of our principles is appreciated by the manufacturers, and therefore the fit time or occasion is here.

We haven't respect from the manufacturer by demanding it, but by commanding it. The manufacturer is for us because he is realizing more and more that it is in his interest to be for us, and not entirely because he loves us so much. Love makes the world go around, but it isn't always so fortunate with the meat and potatoes.

Isn't it up to you and to me to see that there is increasing cause for increased interest on the part of the manufacturer. We may as well look the conditions squarely in the face. We cannot hope to continue to grow unless we can continue to make good.

It is pleasant to go to these annual occasions and meet and shake hands with our friends, (and no one appreciates it more than I), but we must be doing something. It is mighty nice to be told that the shine on our shirt front dazzles the eyes of the floor walker's best girl, but if there is a hole in the seat of your trousers, you should know that too, as you will have to turn your back to your audience sooner or later.

While life is full of opportunities, it is also full of responsibility toward the other fellow. Don't take unreasonable positions regarding little, apparent, infractions of our principles. Be broad

gauge men. Some men are big and broad gauge, while others can only think in boys' and misses' sizes. Be sure the other fellow is wrong before you go ahead.

Ambition is practically the father of opportunity, ambition to attain, whether it be mental, financial, moral or spiritual advancement. Without ambition we are satisfied with our conditions, satisfied with our attainments, and above all satisfied with ourselves.

One of the general tendencies resulting from the late unpleasantness has been the slump in ambition, which seems to have hit many men of many minds recently. On all sides we have found men, (men whom you would never suspect, too) saying, Oh, what's the use? Why fight like the old Harry for business when you're liable to lose all you have gained in the mere twinkle of an eye because someone starts a rumor that ends in a wave of misplaced confidence. Gossip is a humming bird with eagle wings and a voice like a foghorn. It may be heard from Dan to Bethsbeba, and has caused more trouble than all the ticks, fleas, mosquitoes, cayotes, grasshoppers, clinch-bugs, rattlesnakes, sharks, sore toes, cyclones, earthquakes, blizzards, smallpox, yellow fever, gout, and indigestion, than this great United States of ours has ever known or will ever know when this universe shuts up shop and begins the final invoice. In other words it has war and hell backed up in the corner yelling for ice water.

But, Great Scott, do the men who are giving forth these pianissimo pipings of plaintiveness mean that they are down and out, ready to let go,



A. E. BRADSHAW, INDIANAPOLIS, IND.

You," contained more than was impressed upon my mind at first by the altogether light variety shown between the covers.

From the cradle to the grave there is a responsibility upon every human being that he must take notice of, if he would make good. There are, to my mind, two important elements necessary to the success of anything that might be desirable—to the success of our business, of this association, and to the success of our lives. The first of these is desire.

The Constitution guarantees that every person is born free and equal; but the minute that we crawl into our first clothes, the unequal struggle begins for life, health, education, money, position, success. For the first ten or twenty years, depending upon circumstances, the inequality isn't so forcibly impressed upon us. Then when we really begin to want things and try to do things, we realize the irony of the statement that "All Men are Free and Equal." Some of us go up; some down. Some get ahead; some go behind. Why? That is the problem of life. It seems inexplicable that one man should succeed immensely, and his brother, or his next door neighbor, fail. It is particularly puzzling when both have the same start, the same education, the same opportunities, and the same original resources. Yet one is a positive success, and the other an unmistakable failure.

You say one is lucky and the other fated. Never! The element of chance may enter into the vital things of life, but just pure luck or the lack of it isn't to be considered. One man succeeds because he desires to, and he strains every mental, moral and financial resource to accomplish that desire. The other fails because he only



WALTER F. JAHNKE, NEW ORLEANS, LA.

tired of it all? Well, you wouldn't think so. Then why, in the name of the Seven Sutherland Sisters say such a thing, as what's the use? There is no sermon in the expression.

A student of human nature tells of his close observation of three men in a street car. When the car stopped one man was already on the lower step, alighted immediately, and started up town at a very rapid gait. He observed this and was satisfied in his mind that that was a man with a purpose and a man that would accomplish things, for every inch of him was alive, and wide awake. The second man, not so active, strolled along leisurely, and he was sized up as a man of leisure that would probably succeed if everything went all right, but the third man was a fellow with no apparent life or ambition, one who dragged his feet along in an exceedingly don't-care fashion. His impression of the third man was being entered in his mental diary in most uncomplimentary terms, when all at once the thought came home to him that all three were ahead of him.

Satisfied with yourself is death to opportunity. It is time you should be learning that the greatest opportunity that can ever come was born when you were born.

If in doubt, give the other fellow the benefit of the doubt. Be more severe with yourself than you would let others be with you. When you find a fault in yourself, acknowledge it and cut it out. If you find a possibility, develop it.

Believe in your association. He who doubts his ability to win stands on the toboggan swabbing it with grease.

One of our Pittsburgh members suggested that this should be regarded as a stockholders' meet-

ing, which it really is. Every member is a stockholder—the size of the dividends depends upon the earnestness and enthusiasm that each member is able to inject into these annual conventions, and not only that, but in addition, keeping before us constantly the objects and desires of our association, never missing an opportunity to press our claims.

A student inquired of a professor the easiest was to learn French. "Study it" was the answer.

"But I have to master it in a year to get a coveted position." "Then study it like the Devil." Don't go about it in any half-hearted way as the bashful suitor did.

A sharp-featured, determined little woman popped her head out of the door and indignantly demanded the business of a bashful young man, who had been hanging around the house for hours in a pitiless down-pour of rain, hoping against hope that his adored one would invite him in.

"Now, then, young feller, what do yer want here? Tryin' to wear the pavement out, or what?" she demanded, sarcastically.

"I reckon I've come a-courtin' your daughter," the shame-faced youth admitted.

"Oh, ye're after Lizzie, are yer? Then take my advice, young man, an' run away an' lose yerself. My gal ain't goin' to marry a chap that ain't got courage to knock on the door an' ax for her—not likely. Why, when my husban' came a-courtin' me and found the door locked, he climbed the backyard wall, strangled the bulldog, an' knocked the old man silly with a clump on the jaw. Then he grabbed hold of my hand and shoved a ring as big as a cartwheel on my finger and told me that the bans were published last Sunday. That's the sort of husband I want for our Lizzie—not a shiverin' milksop that ain't got sense to come in out of the rain."

The manufacturer isn't blind to his own interests, and as a rule, you will find him exceedingly approachable.

Did you ever hear about the tramp who heard the dog growl and then saw that he was wagging his tail? He didn't dare go ahead or stay, as he didn't know which end to believe. Far be it from me to recommend that any fellow member of this association take the tail end of anything,

but as a general proposition, it pays to give some consideration along the line of least resistance.

This ramble may remind you of the old lady's mother-hubbard wrapper; covers a lot, but don't touch any point.

Human nature is prone to picture out how things ought to be done for the other fellow and forget all about just how it would fit himself.

A large strapping negro woman was brought before the court for unmercifully beating her boy, and the judge went for her severely. "You should be ashamed to beat your own offspring in this brutal manner," said the judge. "Jedge was you all ever the parent of a good for nothing yellow brat what never done nothin but makes you trubble?"

Judge—vehemently—"No—never!"

"Well, den don't talk, Jedge, don't talk, you don't know nothing erbout it."

There is one further thought, however, I want to leave with you, or we might say, to carry out our text, put it "up to you", and that is along the line of local associations for cities, districts or vicinities.

It is my belief that the local association should be encouraged; not that I could agree that locals should be represented in this association by delegates, but for the better handling of questions of a purely local interest, regulation of prices when possible, the elimination of petty jealousy and selfishness among neighbor dealers, the encouragement of better business ethics.

I think I am safe in the statement that this association has more strength in the districts where local associations prosper. It has a broadening influence and tends to eliminate suspicion.

When we don't know our neighbor in business, we are apt to think him a pretty black sort of a cuss. Instead of calling him names, tell him and the trade what a decent sort of a fellow he is.

The more flattery a man hands to his wife, the less pin money he has to dig up. You can never tell what lasting results may be accomplished by an earnest word spoken at the right time. Many a man has had the shape of his nose changed for life by calling another man a liar.

It is true that in some states the statutes prohibit the breathing of fresh air by competitors at the same time, while in some states, I think too

much fuss is made over the laws. Some would have the laws of gravitation and the law of supply and demand repealed. But if the abuse of a business were a crime, a good many builders' supply men would be serving time at this moment.

After this part of the program was disposed of the executive discussions of the convention were taken up. There were some lively tilts, and many of the active members participated in the debates. At adjournment there was an expression of fraternity seldom reached in such a large organization.

The Executive Committee Recommendation.

Under the head of new business, Mr. Warner suggested the following, to-wit:

The Executive Committee having exhaustively discussed the features of the reports of the treasurer and secretaries, bearing upon advertising, dues and revenue of the Association, be it considered.

The sense of the committee that the soliciting of advertising for our annual proceedings book appears to work an injustice to certain members, and should be promptly dispensed with.

And further, this committee believes that the policy of Association Development and the monthly publication of "News and Views," inaugurated in 1908, are vitally necessary to its further progress, and for the fulfillment of the Association's proper duties.

And further, it is also apparent that the question of revenue to maintain and push forward the work of this Association and to provide for the deficiency incurred by the elimination of advertising receipts, will require attention and arrangement at this convention.

Considering the above suggestions, Mr. Lincoln proposed the adoption of the foregoing, as a preamble to the following resolution, seconded by Mr. Adams.

Resolved: That it be recommended to this Annual Meeting that the dues of both active and associate members be increased to \$24.00 per year, the fiscal year to commence February 1st, and that all applications received after February 1st, be pro-rated upon the basis of \$2.00 per month,



NATIONAL BUILDERS' SUPPLY ASSOCIATION AT TENTH ANNUAL MEETING, LOUISVILLE, KY.

dating from the date of election to membership, and

Be it further resolved: That upon adoption of the above increase in dues, an exception should be made of those new members whose applications have been received and accepted between January 1, 1909 and this date, covering membership for the new year of 1909, and

Be it further resolved: That should the dues be increased as above recommended, that paid advertisements already received from members for the 1909 book be returned, and in lieu thereof, that a free space of 1-4 page in the 1909 book be given to each associate member, without, however, effecting the rights of any member to purchase additional space at the formally established rates.

On vote, the above was unanimously adopted by the Executive Committee.

J. W. Wardrop, Executive Secretary.

After a long discussion of the ways and means problem it was decided to act on the suggestions with the idea of enlarged organization.

From the executive chamber word came that the following officers were elected for the coming year.

President—Frank S. Wright, of Meacham & Wright, Chicago.

Treasurer—Harry W. Classen, of Maryland Lime and Cement Company, Baltimore, Md.

Executive Committee—James G. Lincoln, Waldo Brothers, Boston, Mass. (one year); Walter F. Jahnke, F. Jahnke & Co., New Orleans, La. (two years); A. E. Bradshaw, Indianapolis Mortar and Fuel Company (two years); Gordon Willis, Hunkins-Willis Lime and Cement Company, St. Louis, Mo. (two years); V. H. Kreegshaber, Atlanta, Ga. (two years).

State Vice-Presidents—Arkansas, Charles E. Taylor, Little Rock; California, C. J. Waterhouse, San Francisco; Delaware, Charles Bye, Wilmington; District of Columbia, S. D. Lincoln, Washington; Indiana, H. B. Lyman, La Fayette; Illinois, H. H. Halliday, Cairo; Iowa, R. Hay, Dubuque; Kentucky, Owen Tyler, Louisville; Louisiana, John J. Voekel, New Orleans; Maryland, J. J. Kelly, Baltimore; Massachusetts, B. F. Marsh, Worcester; Michigan, S. J. Vail, Detroit; Missouri, Howard McCutcheon, Kansas City; Minnesota, F. J. Nixon, Duluth; New Jersey, Ambrose Tompkins, Newark; New York, M. A. Reeb, Buffalo; Ohio, E. S. Walton, Youngstown; Pennsylvania, Cyrus Borginer, Philadelphia; Rhode Island, C. M. Kelly, Providence; South Carolina, A. G. Gower, Greenville; Tennessee, W. W. Fischer, Memphis; West Virginia, R. W. Marshall, Wheeling; Wisconsin, R. C. Brown, Oshkosh; Washington, S. W. R. Dalley, Seattle; Georgia, P. G. Hanahan, Atlanta.

MORNING SESSION, FEBRUARY 10.

On account of the absence of the newly elected president, our popular retiring president, Gordon Willis, continued to conduct the convention to the close.

OPENING THE MEETING.

By Gordon Willis.

Oratory has no place among the many materials that go to make up the towering skyscraper, the modern factory structures, the department stores or other construction work, still after the oratorical efforts that have so far graced this Tenth Annual Meeting of the National Builders' Supply Association and in expectation of the efforts that are to complete our program for this convention, I almost wish that I had either been born or had become an orator.

Eloquence has never been considered a qualification for the office of President of this Association, in which capacity I have had the honor to serve for three successive terms, or I should have failed to qualify at the first election. I was no orator then, and I have sometimes thought that perhaps I was continued in office with the hope that some day I might develop into a Demosthenes. In view of my determination to retire this year, I feel that I will be compelled to forego any further training in the school of the orator.

However, if I lack eloquence in extending a welcome to the manufacturers who are with us at this meeting there is no lack of earnestness in the feeling that I desire to manifest towards them in my official capacity as President of this organization and as representing the sentiment of the organization itself. This is an age of dependence, not independence in the sense that each is independent of his fellow in the business world. We, as a nation, are independent nationally, and are proud of the fact, but the members of this Association, I am sure, feel that independence and an utter disregard for the interests of our fellow business men have no place in the modern scheme of industrial development.

The dealer is glad on this occasion to have in our midst the manufacturers and their representatives and on this occasion I want to include the absent dealer and manufacturer in my remarks and to say to them that this organization is working as hard to advance the interests of the non-members as it is to serve the interests of the members. The difference in the service in the case of the non-member is solely due to the fact that the non-member does not consult the Association. We are hard at work



JOHN A. KLING, CLEVELAND, O.

serving his interests and he should be induced to come into our ranks. I am going to ask each member, be he dealer or manufacturer, to recommend the name of each dealer or manufacturer in his city, who is not now a member, to our Secretary for membership and to follow it up by a personal letter requesting the person recommended to join our Association.

The subject of harmony between dealer and manufacturer is a trite subject and need occupy little of our attention for this reason and also for the stronger reason that there is so much harmony prevailing between dealer and manufacturer that there is no necessity for urging it. There never has been a period in the memory of building material men when there was a better understanding of the rights of material men by the manufacturers and a consequent respect for those rights. The National Builders' Supply Association can modestly take credit for this great result and if the feeling of harmony now existing is encouraged and promoted the usefulness of the Association and the good results it is aiming to accomplish will be increased. Ignorance is a source of fear in the most highly educated as in the savage and the greatest remedy for ignorance of the methods and personality of the manufacturer and fellow dealer lies in these annual meetings. To know means to lose prejudice and fear and marks the beginning of business relations that are founded on the surest basis of personal acquaintance with the head of the firm with which you do business. To those who have come to the meetings regularly I say continue. To those who have come irregularly I say come oftener, and to those who have never come I say come once. When you come to the meetings do not leave your business at home in your office. Bring to the meetings the problems that confront you. Others have the same problems or other problems closely related to them and an exchange of ideas will mean profit to all. Nothing that consultation can remedy is too small to be overlooked and consultation is an almost universal panacea.

The importance of our calling is often overlooked and at this meeting I want to call the attention of the members to a consideration of some of the problems that are agitating the public mind and to here suggest that at-



M. A. REEB, BUFFALO, N. Y., PRESIDENT, NIAGARA GYPSUM COMPANY.

tention be given to problems that affect us outside of our business as well as in it.

Everywhere we look we see the important part that the building material men play in the progress of the world. Who our representatives at the building of the pyramids were, is unknown to history but they were there. The minutes of such meetings as the men who supplied the materials for these monuments of other times may have held, are not available. Perhaps the stress of competition then was not so heavy and organization was not necessary. The building of the Panama canal is of colossal importance to the material men. The disasters at Messina and at San Francisco concern the material men. In fact the material men are in evidence in all the modern developments of the age.

The matter of the tariff is a subject that should have the earnest consideration of a strong committee in this Association. A convention will be held at Indianapolis, Indiana, National Tariff Convention, on February 16 and 18, and I should like to see a representative of this Association attend that meeting. The matter of importing material from Canada into the United States was referred to in a previous annual address before this Association.

The development of our national waterways is another subject to which I desire to direct the attention of our members and one that will, I believe, in its ultimate solution require the attention of the material men. May not waterway development take the direction of streams built up and made more navigable by the use of concrete retaining walls? Europe has its stone walled streams. Why not utilize concrete here?

There are other questions coming up in the everyday life of this commercial nation that require the close attention of its representative business men and I desire to see this organization take a firm position on matters relating to the development of our common country.

Statistics are seldom interesting but in coming to Louisville for this Annual Convention, the Executive Committee of your Association were impelled by a desire to hold a meeting in a Southern city and to see with their own eyes the startling development that is going on in that prosperous section of our country.

Any statement that did not include official figures to bear out the statistics would be received by the ordinary man, not aware of the fullest development of the South, with utter incredulity and therefore I submit some statements indicating the marvelous progress of the Southland.

In introducing the following tabulation I desire to say that they were included in my address to the active members at our meeting held yesterday, but they are of such vital importance that I feel compelled to repeat them here.

The period covered by the statistics is about twenty years.

	Per cent.
Increase in population.....	65
Capital in manufactures.....	716
Products of manufacture.....	470
Capital in cotton mills.....	1,169
Cotton used, not produced.....	675
Farm products.....	240
Mineral Products.....	1,976
Petroleum produced.....	15,118
Capital in national banks.....	248
Deposits in state banks.....	649
Expenditures for common schools.....	285

Such, gentlemen, is the official statement of the march of progress of the Southland, and I am sure that you all agree with the Executive Committee in the wisdom of the choice of this city for holding this meeting.

There was another reason in the minds of the committee in holding this convention in the Sunny South, and I am glad to say that we have the evidence here of the wisdom of our choice in the representation of material men and manufacturers who have come to attend this meeting and I desire to thank them and congratulate them on their loyalty.

There was one consideration that your Executive Committee did not adequately consider in naming Louisville as the place for this meeting and in this I think that you will all agree with me.

Our conception of the hospitality of this magnificent sister city of the South was not in any proportion to the hearty welcome and the abundant hospitality that we have received from this beautiful and progressive city of the progressive South, and I want to express the thanks of the organization to those who have made our visit to Louisville most pleasant and enjoyable and who have so much welcome still in store for us.

I believe the gentlemen of the South who are present will agree with me when I say that the chivalry of the southern gentleman, the beauty of the women of Dixie and the sparkle of the wine of the Southland is nowhere so much appreciated and revered as in the bosom of your brothers from more northern climates.

Permit me, gentlemen, to thank the representatives of the South for their attendance and participation, to thank the gentlemen who are making our convention welcome to Louisville, to thank those who have honored me by having made me your president for three successive terms and to acknowledge my deep sense of gratitude to every member of the organization for the work he is doing to uphold this Association.

He introduced C. D. Warner, of Chicago, editor of the *Builders' Record*, to talk on the subject of "Harmony." It was the same address and covered the same points that the gentleman used in his speech before the Ohio convention a week before, and was well received by the dealers present, who were all convinced that harmony is one of the purposes and one of the desirable features of association life and work, and this has been the fighting platform of this association from its first incipency to the present time. The matter has often been gone over both in editorial and in eloquence, and on this occasion Mr. Warner did himself and his paper much credit.

E. L. Daugherty, of A. C. Horn Company, New York, read a paper on the subject of "Structural Waterproofings; Its necessities, its uses and its exploitation."

STRUCTURAL WATERPROOFING.

By E. L. Doherty.

In New York City there has just been brought to a close one of the most remarkable expositions of modern times. One of the most stupendously important, too, since it included in its scope the removal of a scourge whose lashes have been afflicting the human family since the early twilight of time. One of the active promoters of this beneficent work, himself a medical scientist of more than national reputation, in the glow of his enthusiasm, after studying the statistics and the evidences before him, declared that if he had sixteen million dollars for the purpose, and unlimited authority for action, he could in a short time drive out every trace of consumption from the great center whence the current of the world's life is ever turning.

While Dr. Hutchinson's broad and somewhat sanguine belief might be open to conjecture, I believe there are few of us who would not endorse such an expenditure. Activities in such a direction command our admiration—as indeed such activities do whenever their object is to lessen preventable evils—whether in the form of injury to humanity itself, or the belongings or accessories which make for his comfort and well-being.

And this brings me to the subject of my discourse.

The wonder to many of us—or to those of us whose daily interests compel our attention to the train of evils resulting from that other scourge,—always to be feared—DAMPNESS caused by moisture-soaked walls, the unchecked water-penetration through masonry and the undermining of foundations by floods or underground streams—the wonder is that civilization, in this age of progress and achievement has done so little towards voicing the demand for protective measures against so persistent an enemy to health, comfort and convenience; that our building departments do not follow the example of some of the Old World cities, and provide stringent rules against the occupancy of a building until its walls have been pronounced by competent authority to be free from the dampness which superinduces moldy walls and which brings sickness and disease in its train. Or, better still, by adopting the preventive provided by modern skill and industry against the encroachments of dampness, to make such inspection and delay unnecessary. The remedies, we repeat, are not wanting; they are ready for the demand. The explanation of this indifference is to be found, perhaps, in the incidious character of the foe, and the well-established truism that Old Prejudices Die Hard.

It is too true that while we number our buildings by millions, we can count those that are provided against water-penetration by scores—yes, by tens! And this in a decade that boasts—not without reason—of having reached the highest pinnacle of human achievement in technical and material progress, the very brilliancy of which has doubtless helped to blind us to some of the plain and practical needs of a rational and healthy existence. We are too prone to be dazzled by the scintillations of the Great World's daily news—we are carried away by the splendid maelstrom of people and events; whether these are of democratic uprisings in the "Near East," or internal disorders within the domain of that Empire on whose possessions the sun never sets; of socialistic chills or suffragette fevers; of the vagaries of a certain picturesque Emperor, or the ebullitions of our own esteemed and vivacious Chief Magistrate. Over and above all this tumult some few are endeavoring to keep constantly in view the need for a campaign of enlightenment on the means of improving our building conditions by eliminating one of their worst defects—the proneness of masonry to imbibe moisture.

It might be well before proceeding further to put before my hearers a few leading arguments in favor of the adoption of measures for defeating the advance of moisture in walls; and these may be classed as follows:

First. It inures to the safety, life and soundness of the structure.

Second. It prevents disfigurement to the exterior walls through efflorescence, or drenching.

Third. By its application to inner walls it dispenses with the air-spaces which are a prolific breeding place for undesirable insect life—also of the necessity for furring and lathing.

Fourth. It conduces to more wholesome conditions within the building, and to the health and comfort of the inmates.

In foundation work waterproofing is especially indispensable, not alone to preserve the integrity of the foundation, but that of the upper walls as well, since if the foundations are damp the superstructure will inevitably be brought to the same condition, through the subtle force of capillary attraction.

And here let me remark: Who is there that in erecting a building would be so stupidly indifferent to his interests as to fall in providing a water-tight roof? Such a piece of folly would be inconceivable; and yet, with a singular inconsistency, while doing all that he can to protect his structure from the straight downpour of rain, he allows his side walls to remain a prey to driving rains and sleet and storms. It is not through the roof alone that water finds entrance through a structure; and to presuppose that the later is safe because the roof is waterproof is as unreasonable as to hold an umbrella rigidly erect in the teeth of a violent rain-storm, driven almost horizontally by a fierce eastern gale.

No; it is not enough to provide a protective covering for the roof; the never-ceasing influence of capillary attraction and the absorbent character of masonry—especially in these days of concrete construction—make it fully as imperative that the walls be rendered impervious as the foundations or the roof.

Neither is it sufficient to protect the inner walls from dampness; although by doing so the plaster and mural decorations may be free from danger of dampstains. He would be considered but a poor strategist who would permit the enemy to enter the outer walls, and only be brought to a stop at the inner line of defense—which in this case would be the insulating coat of waterproofing. The wise general would see that his outposts were also guarded—which here means the exterior surface, and the guard is supplied in the form of a waterproofing liquid—colorless and impervious.

It is not so much of the ravages made by dampness that I wish to enlarge today; you all know what the consequences are when rain and snow and sleet are allowed to expend themselves upon masonry or concrete walls. You all know the gloomy, forbidding aspect presented by a rain-soaked structure, and that the impression conveyed is of interior walls, damp, reeking, moldy; and to us who are familiar with the trend of such conditions, the imagination readily conjures up, decay and



JAMES W. WARDROP, EXECUTIVE SECRETARY, NATIONAL BUILDERS' SUPPLY ASSOCIATION.

disintegration in the walls, rheumatic pains, malarial fevers, general discomfort, ill-humor and discontent in the unhappy occupants.

I would rather speak of the fallacy of neglecting the preventive measures—the resistants to water-penetration which enterprise and skill have provided, and which the experience of two decades have proved to be able—when intelligently applied,—to cope with the sometimes stealthy, sometimes violent foe, and by these measures render our present-day structures dry, wholesome and altogether immune to the noisome vapors incident to moisture-soaked walls.

If there is one locality in the United States which affords a means of illustrating the efficiency, and even the necessity, of structural waterproofing, it is the city of Pittsburgh, Pa., which, as we all know, becomes at certain times the basin into which two swollen rivers discharge their overflow. On these occasions the streets are submerged and the city is transformed into a modern Venice—minus its picturesque.

Illustrations such as we refer to may be seen in some of the city's representative buildings—we might mention as an instance, the Keenan Building, which stands as a monument to the intelligence and skill exercised in making its walls waterproof. And the primary credit of this must be given to an alert and aggressive firm, who among other building supplies also handle waterproofing specialties. Through their efforts the architect was convinced, that while the construction of the building was in progress that it would be a wise provision to adopt a system of waterproofing. The suggestion was acted upon, and the result is a triumph for owner, architect and builder, for, after one of the most destructive floods on the city's records, the foundations of the building, though surrounded by a swirl of angry, rushing waters, and by neighboring buildings whose cellars were



H. S. WEST, TOLEDO, O.

converted into temporary water-tanks, remained as dry as in the midst of a desert.

With the transformation in architecture ushered in with the present generation, and the advent of the skyscraper, came a new impetus to structural waterproofing; and evolution from old-time methods into those more in consonance with present-day conditions. It became evident that measures must be taken to guard against dangers from underground currents, now more frequently encountered because of the deeper foundation work—currents which were sometimes more suspected than actually seen; these to be especially apprehended where the recurrent forces of tide-water are to be reckoned with even though the vicinity be remote from the disturbance. These are a cause of concern and disquiet unless proper and effective measures are taken to withstand their influences. All the trend of modern construction work, in a word, is to make more necessary—sometimes more complicated—the provision of some special safeguard against the common insatiable and always to be feared enemy, DAMPNESS!

It is easy to understand, therefore, that the traditional methods of the past were in no wise equal to the requirements of the present, in so far as the waterproofing of structures is concerned; and, carried along by the Twentieth Century Express, the light of chemical science has lent its aid to industry in the development of products to meet the many and varied conditions that confront us.

Hence was brought into us that great factor of success in so many fields—SPECIALIZATION; and through concentrated thought and skill, another—and what promises to be a great branch of engineering construction has come into its own as a recognized industry. The specialist has not been slow to make use of his opportunities. His efforts have succeeded in bringing to the aid of the architect and the contractor such methods as, if properly availed of, will give them cause to feel as sanguine about the final conquest of dampness as Dr. Hutchinson feels about the eradication of the White Scourge!

The methods of structural waterproofing may broadly be classed under three leading heads, the *Hot*, the *Cold*, the *Integral*.

The first of these means the coating of all surfaces contracting with the earth with hot asphalt or hot coal tar pitch; this is applicable to substructural work only, and while it possesses features which to a large extent recommend it, these are somewhat offset by the expense involved as compared with measures equally effective. For instance, the Hot method necessitates the installation of a small plant on the site of the job for heating and melting the asphalt and pitch, and besides the work can only be done by skilled labor.

Then there is the Cold method, which is equally adaptable to substructural or superstructural work, and whose manipulation calls for no exceptional skill—nothing more than a reasonable exercise of common sense.

Within the past few years there has appeared a new claimant for the attention of those who make a study of waterproofing problems. This is the Integral, or impregnating method; and its development is due to the phenomenal progress made in the use of concrete for all sorts of construction work. While I do not mean to say that the Integral method is exclusively used for concrete, it is perhaps in the latter material that it reaches its fullest usefulness. The name expresses the character of the material. In the form of a fine powder—altogether free from any chemical constituent which can at all detract from the value of the concrete in strength or setting properties—it is impregnated throughout the cement, thence into the concrete mass; becomes an integral part of the latter, transforming a porous, absorbent concrete into one that stands to defy the penetration of moisture; and giving the crowning value to a building which needed only this to make it supreme.

I do not pretend to depreciate the value of surface coatings; on the contrary, there are many conditions where these are indispensable, and some notably successful achievements in waterproofing have resulted from exterior applications of waterproofing compounds. There are some well-known and reliable waterproofing concerns who may justly point with pride to standing evidences of the soundness of this method, in some of our most exclusive modern structures, which exemplify the use of waterproofing liquids. Neither do I deny the virtue of asphaltic compounds; but I do claim that in these days of concrete construction there is not merely a wide field but an absolute necessity for some process by which the concrete itself may be made waterproof, independent of a surface coating or that a mortar coating—also waterproofed by the impregnating methods, be furnished to meet the numberless cases where such a provision alone could meet the exact requirements.

EXPLOITATION.

While the manufacturer of a specialty such as waterproofing provides the material, the incentive, the literature and the information requisite for conducting the campaign of education and of business—the dealer should do the rest. But does he not do his utmost in this direction? you say; to which I answer, sometimes! and when this is done the results are evidenced in large profits to himself and gratification as well as some pecuniary advantage also to the producer.

"Things seen are mightier than things heard." Therefore, the dealer should so fortify himself with a knowledge of what he sells that he can SHOW his prospect the advantage that is to be gained by the use of his specialty. Knowledge is Power, and where knowledge is strengthened and supplemented by a well-grounded confidence in the goods he offers, his efforts should be invincible. This confidence should be the result of his own conviction, by the force of which he can convince his prospect. Let him be prepared to demonstrate; and if he begins with the architect—the arbiter of matters pertaining to buildings, succeeds in getting an audience and arousing an interest in the subject, which in these days should be no such difficult matter, he has taken a long stride forward.

Nor should his argument be based on price only. Let the argument of merit be heard. Let quality and superiority of results have their innings. Above all, let him divest himself of the idea that it is his merely to sell—to exploit—the specialty.

The great mistake made by many dealers in specialties is that they are lacking in, or fail to exercise, the creative or the administrative ability, which is the tide along which so many dealers are led on to fortune. In spirited contrast to this, however, we know of distributors of building specialties which put into their work such immense vitality as makes it impossible that they can take on a lagging gait.

The dealer who considers himself merely a passive instrument merely responding to calls for the goods fails to win profit for himself or just recognition of the mate-

rial he is supposed to exploit. Aggressiveness and vigor make for success. Enthusiasm and a determination to communicate to others his own conviction as to the merits of his specialty will bear down before them the barriers of indifference and disbelief which a cold passivity cannot be expected to touch.

To meet the present-day requirements it would be well to revise a certain familiar old maxim to make it read: "All things come to him who goes after them."

Therefore, let the dealer go after the architect; and the most propitious time to do this is before the plans are drawn. This is the "psychological moment."

In arguing for the use of a certain specialty we strongly condemn the blatant overstatements, which are equally disregarded of good taste, of reason and of truth; and these are too often accompanied with sweeping denunciations of all other materials but his own, or of some particular product which for some good reason—or bad one—he singles out for attack. It is but a poor policy to seek approval of our own methods by condemning those of others. And a dealer who knows his material and believes in it need not resort to the disreputable expedient of condemning a competitor's product. We may safely suspect that if he reaches this point he will feel no great compunction in drawing upon his imagination for facts to bear out his vituperations.

While an opportunity to "talk" his specialty is an excellent aid towards making a sale, the salesman would also do well to avoid meriting the gentle cynicism of Josh Billings that "It's better not to know so much than to know so many things that are not so."

To allow the manufacturer to shoulder the entire burden of activity in the various agencies is unreasonable and impracticable. Were this the prevailing idea, the manufacturers would find it to their advantage to seriously consider the adoption of a plan that has already been suggested—that of forming an association for the purpose of exploiting their several specialties; of establishing offices in the various cities throughout the country, the expense of such offices to be prorated among them. For instance, taking a city of one million population; opening there a branch office; installing a manager with one or two salesmen; these offices to be entrusted with the sales of eight or ten specialties; have them carry stock and get business direct.

Such an arrangement as this is not at all unlikely unless the distributors get into the procession towards advancement and progress, the way for which has been blazed by some of the live and representative builders' supply houses, who are living illustrations of the success that follows determined and intelligent effort and harmony between dealer and manufacturer.

His paper was well received by the audience and the president next introduced the Patrick Henry of the association, the accomplished executive secretary, James W. Wardrop, of Pittsburg. The title of his speech was "Asleep at the Switch," and he handled the subject in a masterful way. Replete in simile and metaphor, he drove his arguments home and in the strongest language appealed to that class of men in the supply business who are asleep at the switch, and with a call that was as clear as a bell he appealed to the new vice-presidents and to every member present to get busy and help in the work of arousing the dealers, who ought to be members, but who are asleep at the switch. Unfortunately, Mr. Wardrop spoke only from notes, so it was impossible to give a full text of his powerful utterances.

The afternoon session of February 10 was devoted to the completion of the executive business carried over from the executive session of the day before. It was called the "get together" session, and as the members were closeted in private almost the entire afternoon, it is hoped that their deliberations have worked out the problems that are the main purpose of the association's existence. With a knowledge of the personnel shut up in that room together, we are persuaded that all the intelligence, forbearance and determination both to get and demand a "square deal" was agreed upon, at least such were the sentiments intimated more or less publicly by those who were there.

At the time of the adjournment there was a feeling of good fellowship among the members, and the cordiality of long standing between the members and the representatives of the manufacturing interests

was expressed on every hand. Thus for another year the material supply men of the country have embarked for a season of renewed prosperity and greater usefulness in the life of the association than has ever existed before.

SOCIAL FEATURES.

As fast as the delegates registered with the secretary, tickets were given out for a vaudeville performance at the Mary Anderson theater for Tuesday evening. The retailers of supplies turned out in force, and some of them with their best girls could be seen in the brilliant audience. The vaudeville hits were all good and very much appreciated. The theater, bearing the name of that great actress, Mary Anderson, a Louisville lady, by the way, is a beauty, and from the executive committee in the box to the press crowd, near the bass drum, we all had a good time. The sketches on the stage were imported for the occasion.

After the theater the delegates were entertained by a smoker in the convention hall, which has been transformed into a roof garden for the occasion. This entertainment was tendered the visiting delegates by the local building material interests, consisting of the following concerns: Belknap Hardware Company, Kosmos Portland Cement Company, J. B. Speed & Co., Ohio River Sand Company, Central Consumers Company, Lehigh Portland Cement Company (by F. E. Paulson), Owen Tyler, National Bank of Kentucky, the Seelbach hotel and Rock Products.

A Dutch lunch was served with room at the individual tables for every delegate of the convention. A company of negro vaudeville artists occupied the stage and made merry. Charles L. Johnson, of the Castalia Portland Cement Company, acted as stage manager. There was plenty of the luncheon, and all that anyone cared to drink or to smoke. The closing stunt was a genuine southern cakewalk in which some of the negro cakewalkers of national reputation participated. Of course, the guests had to get their share by sprinkling silver quarters and half-dollars among the artists in such a way as to make a genuine steamboat deck scramble, and this feature was probably enjoyed more than any other on account of the part that the visitors could take in it themselves. The fun and good fellowship lasted into the wee sma' hours, and the material interests of Louisville only regretted that there was no more opportunity on the program to extend their hospitality more profusely.

It was the kind of a stag affair that most men enjoy when they get together at a convention. It would not do by any means to call names and tell what was done in particular, but there were no end of impromptu stunts that will be related from this time on to the next convention.

ANNUAL BANQUET.

The closing feature of the tenth annual convention was the grand banquet which was served in the private banquet hall on the tenth floor. Ex-President Gordon Willis was the toastmaster and he opened in his own attractive way with a pleasant little speech.

From blue points to coffee and cigars there was wit and repartee among the comrades who were seated nearest together in bunches, and when appetite was appeased and the fragrant smoke of the Havanas filled the air the toastmaster wrapped for order and introduced Senator Chester I. Long to respond to the toast of "The House Upon the Rock." The senator cer-

tainly knows something about construction and the uses of materials. He referred touchingly to the terrible hotel fire that took place in Topeka, Kan., only a few days before, where "Farmer" Smith, the useful and popular public man lost his life with others. He referred to the improvements that Portland cement concrete has introduced into the structural world, and made a very strong argument worthy of being laid before the lawmaker in regard to the building of scientifically safe structures of every kind in the future, particularly public buildings, such as hotels, schoolhouses and the buildings of the government. Senator Long was roundly applauded.

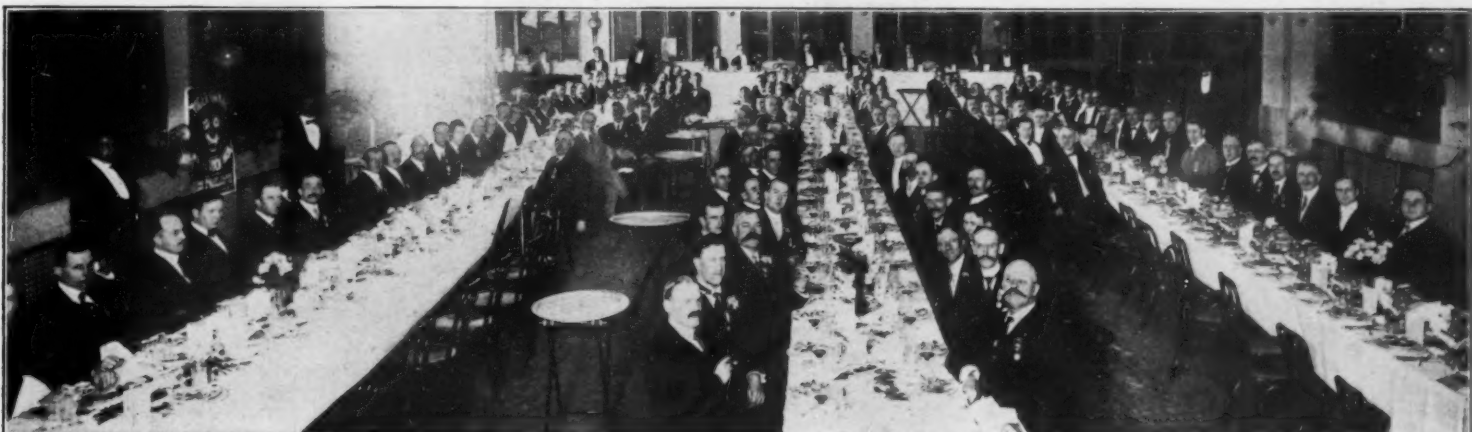
MENU.

Blue Points	Manhattan Cocktail
Celery	Olives
Cream of Chicken, a la Reine	Sauterne
Stuffed Lobster, a la Delmonico	
Potatoes Parisienne	
Bouche of Sweetbread, a la Gourmet	
French Peas	Pall Mall Cigarettes
Roman Punch	C. H. Mumm Extra Dry
Roast Philadelphia Squab	
Lettuce and Tomato Salad	White Rock
Neapolitan Ice Cream	
Assorted Cake	
Camembert	Roquefort
Coffee	Cigars

Judge Matthew O'Doherty, of Louisville, was the next speaker, having the subject of "Blackstone and the Builder." The judge is one of the most famous wits of the South, and although he clothes his speech in wit and humor there is always a thread of thought in his every utterance. Blackstone was the builder of law and order, the builder of comfort in the home is the natural sequence to the establishment of order, and along this line Judge O'Doherty wove together a beautiful example of southern wit with a moral to it.

Rev. Lloyd E. Johnston as substitute for Robert W. Brown, editor of the *Louisville Times*, who was to speak on the text of "The Newspaper and Its Relation to Prosperity," gave a very witty and pleasant talk on the subject of "Substitutes" in general, and he referred to many places where the substitutes had made good and very aptly threw a tribute to Mr. Brown's reputation by saying it was very difficult to substitute for him. However, the audience was very much delighted with his remarks and were of the opinion that Mr. Brown's reputation had been more than supported by his substitute at least.

Without an introduction, with a mere gracious wave from the hand of the toastmaster, James W. Wardrop, secretary of the association, delivered a Phillipic on the subject of "The Dealer's Dream," "Dreaming While He Sleeps." Concluding with a lusty appeal to wake up that made every one remember that the organizer of the association was sounding the bugle for a greater rally at the next convention. The visitors were shaking hands while the orchestra played "Home, Sweet Home." This brought the suggestion that even on such happy occasions, the time for parting will come at last. Thus in a blaze of glory, amidst sweet strains of music and the bright lights of the banquet hall, the tenth annual convention came to a close.



BANQUET OF NATIONAL BUILDERS' SUPPLY ASSOCIATION AT LOUISVILLE.

NOTES OF THE MEETING.

Fred Paulson and Bert Swett, of the Lehigh's Indianapolis office, threatened to go home early, but decided to stay to the finish.

M. E. McCormick, of the American Gypsum Co., was very much at home in Louisville, as his well trodden path leads that way.

J. G. Parke, of Decatur, Ill., says the only thing he objected to was the way the monkey frightened Jim Lincoln at the theater.

Frank Hunter, of Columbus, was the most conventional man attending the convention.

C. N. Ray, the general manager of C. H. Little Company, Detroit, Mich., was very busy being initiated into the secrets of the Association.

F. H. Holland, the Kelley Island lime man, from Cleveland, was there as he always is, right in line. He is known as the expert hydrated lime salesman of Ohio. Just get him to tell you his line of dope. He is really worth an order for a few cars, even if it was not profitable besides.

A. R. Black, of the American Gypsum Company, looked in on his friends because he is built that way, don't you know.

The Ohio and Binns Retarder Company were completely represented by A. H. Gallagher and F. S. Culver. Of course, it's complete, because they do it. Both were willing to talk about waterproofing compound—on proper provocation.

Mrs. D. J. Kennedy, Mrs. S. J. Vial, Mrs. Rogers, Mrs. Chas. Warner, Mrs. C. M. Limbach, Mrs. J. J. Urschel, Mrs. Fred D. Howland, Mrs. L. C. Kaplin, Mrs. E. H. Defebaugh were the ladies in the Seelbach parlors who played cards and had a general good time from their standpoint. The weather made it impossible to enjoy the famous parks that belt the city.

Ed Walton, of Youngstown, O., talked auto and N. B. S. A. until Jesse Haas had the headache.

Hon. Wm. Shearer, of U. S. G. Co., and his force of salesmen, large and small, were there to plaster you in any old way.

B. E. Allison, sales manager of the United Kansas Portland Cement Company, Kansas City, Mo., was seen mingling with the delegates.

W. K. Squire, of the Paragon Plaster Company, Syracuse, N. Y., came in from the West. Most of last year he was overworked with the big rebuilding proposition of their mill which was burned down.

M. A. Reeb, of Niagara Gypsum Company fame, was mixing with the boys.

Teddy Walton said he would have some tags printed for the next convention, as the price of engraved cards is still undisturbed.

President Gordon Willis, our genial and yet dignified president, had a cordial greeting for all, and memory for every name and every face. The same quality that attaches to all born leaders.

"Will you have one?" was a sweet expression often to be heard. You almost always will, of course, and that is why it tastes so good in old Kentucky.

Harry Gilbert, of Chicago, with his galvanized corner bead, has one of the most profitable steel specialties that the supply man can handle. It is one of those inexpensive essentials to modern plaster work that all up-to-date supply concerns must handle.

John A. Kling, of the Cleveland Builders' Supply Company, was on deck taking a lively interest in the affairs of the association as of yore. He has had a long siege of it, and still carries a cane, but his eagle eye and thoughtful courtesy to all bespeak his ultimate recovery. His many friends enjoyed his attendance at the convention as much as he, himself.

Louisville has the largest factories for the manufacture of plug tobacco, jeans pants, enamel bath tubs, Bourbon whiskey and a good place to stick around.

E. A. Foster, of Boston, told all about the Bay State brick and cement coating and many other things.

Ben Williams, of the American Cement Plaster Company, Grand Rapids, with his two scouts, James M. Kean and Fred G. Soxman, plastered it on the members.

James G. Lincoln said he will censor all future ROCK PRODUCTS dailies. Hereafter it will be his fault.

Charles L. Johnson, of the Castalia Portland Cement Company, was shaking hands all around. He is always to be found at the front on every social occasion.

B. H. Rader, Universal Adonis, believes that to be



CHARLES WEILER, MILWAUKEE, WIS., OUR CORRESPONDENT ABROAD.

busy and sell cement means salesmanship up Pittsburgh way.

Edward Bogk, of the Ricketson Mineral Paint Works, Milwaukee, had a red, white and blue barrel with "Roll Along" on the side. He is always rolling them in.

The executive committee were entertained at lunch by Wardrop and Adams in a duel of the best stories.

James W. Wardrop, the brilliant executive secretary, was in fine condition. That is to say, full of good stories to move things up with, something like one A. Lincoln was famous for in times past.

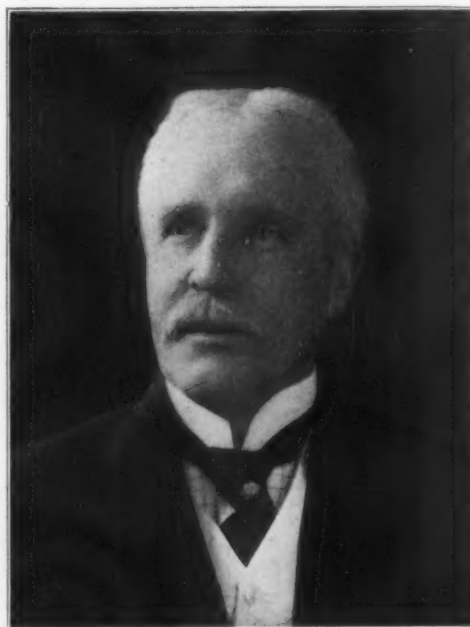
You can tell by the signs that the Gary Steel and Iron Company were there with their expanded metal and other specialties. Samuel Siddall and William P. Miller were doing it.

H. F. Boyd, of Baltimore, is guardian to Harry Classen, or Harry is of Boyd. The fact is, they never did get the matter settled, so we have to vouch for both of them.

Isaac Tyler, of Louisville, who had charge of the exhibit division on the convention floor, had a whole lot of details to attend to.

The Kosmos Portland Cement Company kept open house in their offices in the Paul Jones Building, just two blocks from the hotel.

Did you see Billy Bale in his character sketch, "Samuel of Posen"?



F. P. HUNKINS, ST. LOUIS, MO.

Of all the smiling faces on the firing line none was more welcome than George B. Christien, who stands for the goodness of the Ohio and Western Lime Company.

W. C. Runyon, of the Lake Erie Builders' Supply Company, is one of the latest members of the association.

Charles Hoover, of the U. S. Portland Cement Company, Bedford, Ind., signed an application for membership while at Louisville.

Father Porter, of Menasha, Wis., said the ROCK PRODUCTS' reviews of business conditions are handy to have on tap.

P. G. Hanahan, of the Carolina Portland Cement Company, Atlanta, Ga., attended his first session of the National. Mrs. Hanahan was with him, and they had a pleasant visit during their stay in Louisville.

Messrs. Sebold and Sheets, of the American Rolling Mills Company, Middletown, O., had an exhibit of expanded metal for plaster lathing which was attractive.

They say that Charlie Brigham, of the Atlas Portland Cement Company, is partial to boiled mackerel for breakfast.

Sam J. Vail, of Detroit, has the distinction of having his birthday the same as George Washington and the J. in his name stands for Johnson. Doctor Sam Johnson never knew his namesake, of course, but Sam knows both the Doctor and G. W. The next celebration of the 22d will be our Sam's twenty-sixth. But this don't go if Mrs. Vail hears about it.

A. A. Dalley, of Seattle, Wash., was the delegate who came the longest distance to the convention. More than 4,000 miles.

Edward Hennesy, Alpha Portland Cement Company, Chicago, was doing the graceful every minute.

Charles Claiborne's good cigars seemed to have had no end. It's the kind of a card that he hands one, and it has pictures of the famous Mount Savage fire brick.

L. V. Clark and O. V. Johnson, of Philadelphia, representing the Lawrence Portland Cement Company, decorated the members with "Dragon" buttons.

Charlie Schmutz and C. F. Harwood did the honors for the Superior Portland Cement Company, Cincinnati, O.

The smiling face of John W. Eichelberger, of Dayton, O., always helps to illuminate the meets.

A. E. Preuss had a pocket full of miniature bricks called the Universal Granite Brick, which is a sample of the goods he is introducing with the opening of the season. There are two kinds, one a buff and the other a rich speckled variety like nothing else that has ever been known. It was certainly one of the finest products of the brick line ever exhibited. He says that he has a brick to hurl at all who will not believe his stories about the virtues of Utica cement. Now a brick was always an argument and this is a good one. It is made at Utica, Ill., where Utica cement comes from, and as the newest product to be offered it is sure to be a winner. We are betting on the rich buff color to take the lead.

Fred Langner, of Buffalo, had a lot of nice literature about his iron columns and other structural specialties that are indispensable to the up-to-date dealer.

Harry W. Classen is the only treasurer ever, it's second nature to him to carry responsibility gracefully.

Edward and Charles Mollering, of Fort Wayne, Ind., came early to get the new ideas that were floating around. It's a habit with them to go home and put the new things into practice in their own operations.

A. B. Meyer and D. W. Lovejoy, of Indianapolis, were on hand in the interests of A. B. Meyer & Co.

D. L. Mather, of Richmond, Ind., says that the concrete streets of his city are holding up well and there is likely to be more of them put down as needed.

F. J. Van Allen, of Jackson, Mich., he of the big sewer pipe "jest smiled" all the time.

H. S. Doyle, of the American Steel and Wire Company, Chicago, has a new steel specialty in the shape of reinforcement for concrete work that every dealer will want to handle sooner or later. The sooner the better—in profits.

K. E. Lyman, of the Jamestown Paint and Varnish Company, Jamestown, Pa., were greeting every new arrival in the lobby. He had his hands full, for they were pouring all the time.

Edw. D. Boyer, of the Atlas Portland Cement Company, had a good reason for being on hand. Just ask him.

President W. W. Fischer, of the Memphis Builders' Exchange, headed the delegation from the Tennessee metropolis.

THE OFFICIAL ROSTER.

- 1 H. W. Foote (Northwestern Expanded Metal Co.), Chicago.
- 2 E. H. Defebaugh (Rock Products), Chicago.
- 3 W. H. Pipkorn (H. Pipkorn Co.), Milwaukee.
- 4 A. C. Tews (Tews Bros.), Milwaukee.
- 5 F. G. Langner (Mostberger-Langer Iron Co.), Buffalo.
- 6 S. J. Vail (The S. J. Vail Co.), Detroit.
- 7 W. W. Bale (Pennsylvania Cement Co.), New York.
- 8 J. M. Carrere (Blanc Stainless Cement Co.), Allentown, Pa.
- 9 R. C. Vidal (Blanc Stainless Cement Co.), New York.
- 10 Ambrose Tompkins (Tompkins Bros.), Newark, N. J.
- 11 K. E. Lyman (Jamestown Paint & Varnish Co.), Jamestown, Pa.
- 12 E. B. Stanley (Clinton Metallic Paint Co.), Clinton, N. Y.
- 13 Owen Tyler, Louisville, Ky.
- 14 J. P. Kean (American Cement Plaster Co.), St. Louis.
- 15 C. H. Claiborne (Mt. Savidge Fire Brick Co.), Baltimore.
- 16 F. E. Bryan (Universal Portland Cement Co.), Pittsburgh.
- 17 A. E. Bradshaw (Indianapolis Mortar & Fuel Co.), Indianapolis.
- 18 E. A. Foster (Wadsworth, Howland & Co.), Boston.
- 19 T. J. Van Allen (American Sewer Pipe Co.), Jackson, Mich.
- 20 D. J. Lovejoy (A. B. Meyer & Co.), Indianapolis.
- 21 B. H. Rader (Universal Portland Cement Co.), Pittsburgh.
- 22 W. P. Miller (Garry Iron and Steel Co.), Cleveland.
- 23 Samuel Suddall (Garry Iron and Steel Co.), Cleveland.
- 24 C. L. Johnson (Castalia Portland Cement Co.), Pittsburgh.
- 25 C. H. Brigham (Atlas Portland Cement Co.), New York.
- 26 R. R. Fish (Sandusky Portland Cement Co.), Sandusky, O.
- 27 J. M. Campbell (Campbell, Morrell & Co.), Passaic, N. J.
- 28 C. W. Hammond (Kentucky Fire Brick Co.), Bolivar, O.
- 29 H. F. Rauch (Whitehall Portland Cement Co.), Philadelphia.
- 30 D. L. Mather (Mather Bros. Co.), Richmond, Ind.
- 31 L. V. Clark (Lawrence Portland Cement Co.), Philadelphia.
- 32 O. G. Johnson (Lawrence Portland Cement Co.), Philadelphia.
- 33 J. A. Kling (Cleveland Builders' Supply Co.), Cleveland.
- 34 D. J. Kennedy (D. J. Kennedy Co.), Pittsburgh.
- 35 A. B. Meyer (A. B. Meyer & Co.), Indianapolis.
- 36 J. J. Haas (Houston Bros. Co.), Pittsburg.
- 37 H. W. Classen (Maryland Lime and Cement Co.), Baltimore, Md.
- 38 W. T. Akers (Akron Vitroflid Clay Mfg. Co.), Akron, O.
- 39 D. S. Hoover (Alma Cement Co.), Wellston, O.
- 40 R. L. Cope (Alma Cement Co.), Wellston, O.
- 41 Theo. C. Schwer (E. M. Baltes & Co.), Fort Wayne, Ind.
- 42 Charles C. Bye (Charles Warner Co.), Wilmington, Del.
- 43 S. A. Morman (S. A. Morman Co.), Grand Rapids, Mich.
- 44 B. F. Marsh, Worcester, Mass.
- 45 Harry P. Boyd (National Building Supply Co.), Baltimore, Md.
- 46 P. Austin Tones (Atlas Portland Cement Co.), New York.
- 47 Edw. D. Boyer (Atlas Portland Cement Co.), Catasauqua, Pa.
- 48 W. W. Coney (Moores-Coney Co.), Cincinnati, O.
- 49 Gordon Willis (Hunkins-Willis Lime and Cement Co.), St. Louis, Mo.
- 50 J. C. Adams (D. J. Kennedy Co.), Pittsburg, Pa.
- 51 Fred G. Soxman (American Cement Plaster Co.), Indianapolis, Ind.
- 52 Frank E. Mallott (Mallott Coal and Lime Co.), Indianapolis, Ind.
- 53 Fred Goepper, Indianapolis, Ind.
- 54 E. L. Dougherty (A. C. Horn Co.), New York.
- 55 J. R. Paul (Ironton Portland Cement Co.), Ironton, O.
- 56 W. T. Black (Fairmount Wall Plaster Co.), Fairmount, W. Va.
- 57 F. E. Paulson (Lehigh Portland Cement Co.), Indianapolis, Ind.
- 58 James W. Wardrop (N. B. S. A.), Pittsburg, Pa.
- 59 Harry S. West (N. B. S. A.), Toledo, O.
- 60 Geo. B. Christian, Jr., (Ohio and Western Lime Co.), Marion, O.
- 61 W. H. Black (Ohio and Western Lime Co.), Toledo, O.
- 62 C. H. Wilson (Cincinnati Sewer Pipe Co.), Cincinnati, O.
- 63 Chas. W. Kelly (James C. Groff Co.), Providence, R. I.
- 64 W. A. McCall (Dealer's Record), Chicago, Ill.
- 65 E. H. Moellering (Wm. Moellering's Sons), Fort Wayne, Ind.
- 66 C. E. Moellering (Wm. Moellering's Sons), Fort Wayne, Ind.
- 67 O. F. Pilcher (McArthur Brick Co.), McArthur, O.
- 68 Dan'l McKeever (McArthur Brick Co.), McArthur, O.
- 69 F. K. Irvine (Rock Products), Chicago.
- 70 E. S. Walton (The Youngstown Ice Co.), Youngstown, O.
- 71 M. M. Hunter (Edison Portland Cement Co.), Pittsburg.
- 72 J. W. Eichelberger (T. D. Eichelberger's Sons), Dayton, O.
- 73 R. B. Mather (Mather Bros. Co.), Richmond, Ind.
- 74 C. R. Brigham (Atlas Portland Cement Co.), Toledo.
- 75 W. M. Hodges (Pearl Clay Product Co.), Bradford, La.
- 76 E. A. Thomas (Geo. S. Mephram & Co.), E. St. Louis, Ill.
- 77 F. H. Holland (Kelley Island Lime & Transport Co.), Cleveland.
- 78 W. K. Squire (Paragon Plaster Co.), Syracuse, N. Y.
- 79 C. E. Schefold (American Cement Plaster Co.), Lawrence, Kas.
- 80 Porter Warner (Chattanooga Builders' Supply Co.), Chattanooga, Tenn.
- 81 Chas. Warner (Charles Warner Co.), Wilmington, Del.
- 82 J. G. Parke (V. H. Parke & Sons Co.), Decatur, Ill.
- 83 C. N. Ray (C. H. Little Co.), Detroit, Mich.
- 84 C. M. Foster (Meachem & Wright Co.), Chicago.
- 85 A. E. Preuss (Utica Hydraulic Cement Co.), Utica, Ill.
- 86 T. W. Murray (General Fire Proofing Co.), Youngstown, O.
- 87 Isaac H. Tyler (Owen Tyler), Louisville.
- 88 Edw. Bogk (Rickatson Mineral Paint Co.), Milwaukee.
- 89 Horace C. Irwin, Springfield, Ill.
- 90 Geo. T. Calverts (J. Calverts Sons), Detroit, Mich.
- 91 Edw. Hennessy (Alpha Portland Cement Co.), Chicago.
- 92 H. W. Doyle (American Steel and Wire Co.), Chicago.
- 93 J. U. C. McDaniel (Chicago Portland Cement Co.), Chicago.
- 94 C. H. Stannus (Marion M. Allen), Newport, Ky.
- 95 Frank Steeg (Acme Cement Plaster Co.), St. Louis.
- 96 Marion M. Allen, Newport, Ky.
- 97 E. W. Barnes (Acme Cement Plaster Co.), St. Louis, Mo.
- 98 W. W. Sebald (American Rolling Mill Co.), Middletown, O.
- 99 Geo. L. Sheets (American Rolling Mill Co.), Middletown, O.
- 100 Robert Triggs (Majestic Furnace and Foundry Co.), Huntington, Ind.
- 101 W. H. Davis (The Jaito Co.), Boston, O.
- 102 W. H. Settle (W. H. Settle & Co.), Madisonville, O.
- 103 S. G. Tyler (Owen Tyler), Louisville, Ky.
- 104 W. W. Nicol (Peoria Fuel Co.), Peoria, Ill.
- 105 C. D. Warner (Builder's Record), Chicago, Ill.
- 106 C. M. Timmons (Kosmos Portland Cement Co.), Louisville, Ky.
- 107 Charles Horner (Kosmos Portland Cement Co.), Louisville, Ky.
- 108 J. A. Pfeiffer (Northwestern Expanded Metal Co.), Chicago, Ill.
- 109 L. G. Kilborne (Columbus Brick and Terra Cotta Co.), Columbus, O.
- 110 John O. Pew (Youngstown Iron and Steel Roofing Co.), Youngstown, O.
- 111 M. E. McCormick (American Gypsum Co.), Indianapolis, Ind.
- 112 Jas. G. Chrispin (Jas. G. Chrispin & Co.), Cincinnati, O.
- 113 V. H. Kreigshaber, Atlanta, Ga.
- 114 M. H. Eddy (American Safety Tread Co.), Boston, Mass.
- 115 H. H. Plummer, Menosha, Wis.
- 116 D. M. Adams (Universal Portland Cement Co.), Chicago, Ill.
- 117 Chas. Schmutz (Superior Portland Cement Co.), Cincinnati, O.
- 118 C. F. Harwood (Superior Portland Cement Co.), Cincinnati, O.
- 119 John J. Voelkel (J. J. Clark Co. Ltd.), New Orleans, La.
- 120 J. M. Wilkerson (Dixie Portland Cement Co.), Chattanooga, Tenn.
- 121 E. A. Evans (Zanesville Lumber and Builders' Supply Co.), Zanesville, O.
- 122 S. Dana Lincoln (National Mortar Co.), Washington, D. C.
- 123 J. F. Twamley (Coplay Cement Manufacturing Co.), Philadelphia, Pa.
- 124 L. C. Koplin (Thomas Phillips Co.), Akron, O.
- 125 R. C. Brown (Cook & Brown Lime Co.), Osnokosh, Wis.
- 126 Wm. E. Jordan (Nashville Builders' Supply Co.), Nashville, Tenn.
- 127 Will F. Lang (Owen Tyler), Louisville, Ky.
- 128 C. Webber Jones (Samuel H. French & Co.), Philadelphia, Pa.
- 129 J. J. Urschel (Acme Supply Co.), Toledo, O.
- 130 W. H. Price (Urschel-Bates Valve Bag Co.), Toledo, O.
- 131 Jno. C. Denison (National Mortar and Supply Co.), Pittsburg, Pa.
- 132 Bert Swett (Lehigh Portland Cement Co.), Indianapolis, Ind.
- 133 Clarence E. Walker, Louisville, Ky.
- 134 Walter D. Jahncke (F. Jahncke Sons), New Orleans, La.
- 135 Fred W. Keisker (Louisville Commercial Club), Louisville, Ky.
- 136 J. G. Tucker (Chattanooga Paint Co.), Chattanooga, Tenn.
- 137 F. D. Howland (Thomas Phillips Co.), Akron, O.
- 138 H. C. Koch (Dixie Portland Cement Co.), Chattanooga, Tenn.
- 139 J. B. Blanton, Frankfort, Ky.
- 140 A. B. Meyer (A. & C. Stone and Lime Co.), Indianapolis, Ind.
- 141 W. H. Ford (Wm. G. Hartman Cement Co.), Philadelphia, Pa.
- 142 W. W. Fischer (Fischer Lime and Cement Co.), Memphis, Tenn.
- 143 R. H. Rutherford (Oakland Pressed Brick Co.), Zanesville, O.
- 144 P. G. Hanahan (Carolina Portland Cement Co.), Atlanta, Ga.
- 145 B. A. Williams (American Cement Plaster Co.), Lawrence, Kan.
- 146 Thomas Best (Best Bros. Keene's Cement), Medicine Lodge, Kan.
- 147 F. P. Hunkins (Hunkins-Willis Lime and Cement Co.), St. Louis, Mo.
- 148 James Leenhouts (Grand Rapids Plaster Co.), Grand Rapids, Mich.
- 149 W. W. Cain (Grand Rapids Plaster Co.), Jeffersonville, Ind.
- 150 M. H. Yater (Grand Rapids Plaster Co.), North Vernon, Ind.
- 151 Chas. T. Moore (The Times), Louisville, Ky.
- 152 James F. Grinstead, mayor of Louisville.
- 153 W. J. Watkins, Louisville, Ky.
- 154 C. O. Smith (McArthur Brick Co.), Louisville, Ky.
- 155 P. R. Harrison (Grand Rapids Plaster Co.), Grand Rapids, Mich.
- 156 W. H. Hart (Fairbanks, Morse & Co.), Louisville, Ky.
- 157 J. W. Landram (Terra Haute Coal & Lime Co.), Terra Haute, Ind.
- 158 H. B. Webster (U. S. Gypsum Co.), Louisville, Ky.
- 159 Bruce Chenowith (U. S. Gypsum Co.), Chicago, Ill.
- 160 C. C. Quincy (U. S. Gypsum Co.), Chicago, Ill.
- 161 H. A. Rogers (A. B. Keepert & Co.), Indianapolis, Ind.
- 162 W. B. Givin (The Fitzhugh Givin Co.), Charleston, W. Va.
- 163 John Mueller, Lockland, O.
- 164 J. J. Mueller, Lockland, O.
- 165 J. E. McCracken (J. E. McCracken Supply Co.), Cincinnati, O.
- 166 Geo. W. McCammon (L. A. McCammon Bros.), Cincinnati, O.
- 167 R. R. Black (American Gypsum Co.), Port Clinton, O.

- 168 A. H. Gallagher (The Ohio & Binns Retarder Co.), Toledo, O.
- 169 T. S. Culver (The Ohio & Binns Retarder Co.), Port Clinton, O.
- 170 H. Houghten, Detroit, Mich.
- 171 H. C. Houghten (H. Houghten), Detroit, Mich.
- 172 W. E. Shearer (U. S. Gypsum Co.), Cleveland, Ohio.
- 173 C. A. Erwin (U. S. Gypsum Co.), Columbus, Ohio.
- 174 Chas. Hoover (U. S. Cement Co.), Bedford, Ind.
- 175 M. A. Reeb, Buffalo, N. Y.
- 176 Frank A. Keith (Niagara Gypsum Co.), Buffalo, N. Y.
- 177 James G. Lincoln (Waldo Brothers), Boston, Mass.
- 178 Arthur N. Pierson (A. N. Pierson & Co.), New York.
- 179 O. C. Maurer (Woodville Lime and Cement Co.), Toledo, O.
- 180 C. M. Dugan (Kosmos Portland Cement Co.), Louisville, Ky.
- 181 E. J. Tully (Contractor's and Builder's Supply Co.), Cincinnati, O.
- 182 F. H. Kinney (Hyde Park Supply Co.), Cincinnati, O.
- 183 John M. Stoner (South Webster Brick Co.), Columbus, O.
- 184 Blank.
- 185 W. C. Lantry (Western Lime and Cement Co.), Milwaukee, Wis.
- 186 H. F. Rouse (Robinson Clay Products Co.), Akron, O.
- 187 James B. Hammond (Ohio Terra Cotta Brick Co.), Bolivar, Pa.
- 188 C. T. Miller (Cleveland Builders' Supply Co.), Cleveland, O.
- 189 Frank Hunter (Columbus Builders' Supply Co.), Columbus, O.
- 190 Louis J. Buchkiet (Mitchell Lime Co.), Mitchell, Ind.
- 191 Dan R. Brown (Lehigh Portland Cement Co.), Mitchell, Ind.
- 192 C. S. Dickens (T. F. Agt., P. M., R. R.), Chicago, Ill.
- 193 W. H. Whittaker (Ind. Mortar & Fuel Co.), Indianapolis, Ind.
- 194 W. B. Lensing (H. A. Lensing), Evansville, Ky.
- 195 Robt. E. Brandeis, Louisville, Ky.
- 196 Warfield Webb (Dealer's Record), Louisville, Ky.
- 197 Madison Dugan (Dealer's Record), Jeffersonville, Ind.
- 198 M. C. Runyon (Lake Erie Builders' Supply Co.), Cleveland, O.
- 199 Rowland Buckler (Diem & Wing Paper Co.), Louisville, Ky.
- 200 C. A. Kimball (Atlas Portland Cement Co.), New York.
- 201 E. A. Quarles (Builders' Exchange), Louisville, Ky.
- 202 A. T. Macdonald (Secretary Commercial Club), Louisville, Ky.
- 203 John G. Evans (Atlas Portland Cement Co.), New York.
- 204 Arthur A. Dally, S. W. R. Dally, Seattle, Wash.
- 205 Richard Vandiver, Oakland Press Brick Company, Zanesville, O.
- 206 T. W. Spinks, T. W. Spinks, Covington, Ky.
- 207 F. J. Nixon, Paine & Nixon, Duluth, Minn.
- 208 S. L. Avery, United States Gypsum Company, Chicago, Ill.
- 209 G. H. Charles, American Rolling Mill, Middletown, O.
- 210 B. E. Alison, United-Kansas Portland Cement Company, Iola, Kan.
- 211 P. M. Justice, F. T. Justice Company, Lexington, Ky.
- 212 R. S. Rhoads, American Sewer Pipe Company, Columbus, O.
- 213 W. H. Doelker, Doelker Bros., Louisville, Ky.
- 214 S. B. Goucher, National Fireproofing Company, Pittsburgh, Pa.

New Incorporations.

Bairstow Supply Company has been incorporated at Chicago, with a capital stock of \$20,000, to do a general grain, fuel, crushed stone and teaming business. John Bairstow, Arthur Bairstow and Robert Bairstow are the incorporators.

East Shore Brick Company has been incorporated at Haverstraw, N. Y., to manufacture brick and deal in same, stone, lumber and building material; capital, \$15,000. Incorporators: Lawrence J. Murray, Thomas Gagan, Emma Murray, Mary T. Gagan, Haverstraw, N. Y.

JOINT CONVENTION.

Nineteenth Annual of the Illinois Lumber Dealers and the Fourth Annual of the Illinois Masons' Supply Association.

The nineteenth annual convention of the Illinois Lumber Dealers' Association and incidentally the fourth annual convention of the Illinois Masons' Supply Association, were held at the Sherman House, Chicago, Wednesday, Thursday and Friday, February 17, 18 and 19. The attendance was very large, the visitors coming from every section of the state. Douglas Molloch, the well known poet of the American Lumberman, welcomed the delegates in the form of a poem written for the occasion. President W. F. Stevens responded and made his annual address and M. B. Nelson, of Kansas, talked on the "Code of Ethics."

Dr. C. H. Morrill, of the Sheldon School, made a talk on "Saving the Profits" through system, and Met L. Saley made a talk on "Wasting the Profits," or "Failure."

There was a general discussion of matters of special interest to members following this paper, and it was 5:30 o'clock before the meeting adjourned.

The following committees were appointed:

Audit—Henry Osgood, Chicago; W. T. Boston, Yorkville.

Resolutions—T. J. Birmingham, Galena; J. T. McGrath, Polo; T. V. Jones, Decatur.

Nominations—W. T. Boston, Yorkville; E. F. Hunter, Chillicothe; E. M. Stotlar, Marion.

Reception—C. D. Rourke, Urbana; N. E. Holden, Danville; Charles W. Hall, Sandoval; E. S. Cheaney, Petersburg; W. T. Boston, Yorkville; T. V. Jones, Decatur; E. M. Stotlar, Marion; Joseph Paddock, Pana.

Thursday, Edward Hines, of the Edward Hines Lumber Company, of Chicago, discussed the agitation now going on in Chicago relative to the removal of the lumber tariff. W. H. Maze, of Peru, Ind., then gave an address on "The Value of Local Associations."

Friday, Edward M. Hagar, president of the Universal Portland Cement Company, was called upon to address the audience on "Friendly Cooperation." Mr. Hagar's subject gave way to a great deal of discussion and a number of difficulties which were presented by the members were partly solved by him. The selling of cement by the manufacturer direct to the consumer came up during the discussion and many comments were made. It was shown that some of the cement manufacturers were trying to do the fair thing by the retailers. It was suggested by Secretary Hotchkiss that Mr. Hagar use his influence in having the cement manufacturers hold a conference along the same lines as the lumber trade congress held at Minneapolis last summer. Mr. Hagar replied that such a conference had been held but to date nothing had been accomplished. C. W. Hall, of Sandoval, made a motion to have President Stevens appoint a committee to meet the cement manufacturers in this territory in order to get on better terms with the manufacturers of cement. A vote of thanks was extended to Mr. Hagar for his presence at the meeting.

NOTES OF THE CONVENTION.

Wednesday evening Vicegerent Johnson, of the Concatenated Order of Hoo-Hoo presided over a class of sixteen kittens; they were as follows:

G. A. Franzen, Amhurst, Ill.; F. J. Bouchard, Chicago, Ill.; O. J. Hansen, Cossean, Ill.; A. W. Bryce, Edinburg, Ill.; W. G. Nyman, Chicago, Ill.; J. F. Berthold, Aurora, Ill.; F. A. Johnson, Oshkosh, Wis.; W. F. Wolff, Jr., Chicago, Ill.; H. Smith, Chicago, Ill.; D. G. Thorne, Chicago, Ill.; W. J. Whyte, Chicago, Ill.; John Rooney, Chicago, Ill.; O. Beuter, Chicago, Ill.; J. F. Erlhoff, Chicago, Ill.; Peter E. Taurash, Chicago, Ill., and A. L. Jones, Barry, Ill.

The officers in charge of the initiation were as follows:

L. E. Fuller, Snark; H. E. Miller, Senior Hoo-Hoo; Charles D. Rourke, Junior Hoo-Hoo; Thos. H. McGill, Bojum; Irvine McCauley, Jabberwock; A. H. Lewis, Custocation; H. Silverman, Arcanoper; A. H. Ruth, Gurdon; E. H. Defebaugh, Scrivenoter.

Among the visitors at the Illinois convention were a number of cement manufacturers, including the Lehigh Portland Cement Company, with Fred Paulson in charge; German-American Portland Cement Company; Marble Head Lime Company; Vice-President Newton and several others, and the United States Gypsum Company.

ATTENDANCE.

The following list shows the attendance at the Illinois meeting.

Official registration, Nineteenth Annual Convention of Illinois Lumber Dealers' Association and Illinois Masons' Supply Association:

Jas. F. Berthold, Soper-Moison Lumber Co., Aurora, Ill.; lumber and millwork.

J. G. Byers, Alexander Lumber Co., Aurora, Ill.; lumber.

R. P. Harris, Ginter-Wardein Co., Alton, Ill.; lumber and millwork.

Herman and Fred Engelbach, Arenzville Lbr. Co., Arenzville, Ill.; lumber, hardware, paints, plaster and cement.

James Charlton, James Charlton & Son, Apple River, Ill.; lumber.

R. A. Davidson, Dowman-Magner Lbr. Co., Arthur, Ill.; building material and coal.

Elmer E. Todd, White & Todd, Aurora, Ill.; lumber.

T. J. Hitchcock, T. J. Hitchcock, Arlington Heights, Ill.; lumber, etc.

Fred Kellogg, O. H. Paddock Lbr. Co., Assumption, Ill.; lumber, etc.

A. L. Towana, Abingdon, Ill.; lumber and coal.

W. P. Barker, Jr., W. P. Barker & Son, Batavia, Ill.; coal, lumber and building material.

A. L. Jones, A. L. Jones, Barey, Ill.; lumber, cement and plaster.

C. A. Franzen, Bensenville, Ill.; lumber, coal, cement, etc.

E. H. Hollister, A. Hollister & Son, Belvidere, Ill.; lumber, coal, etc.

Harry Stotlar, Stotlar-Herrin Lbr. Co., Benton, Ill.; building material.

H. B. Garnier, Bristol, Wis.; lumber, coal and feed.

E. B. Fiddler, Breadlands Lumber Co., Breadlands, Ill.; lumber and coal.

H. A. Sells, Morgan Sash and Door Co., Chicago, Ill.; doors, etc.

E. F. Maniose, W. H. & G. A. Gardner, Chicago, Ill.; lumber.

D. H. Howe, Marblehead Lime Co., Chicago, Ill.; lime, cement, etc.

R. S. Bassett, Alexander Lbr. Co., Champaign, Ill.; lumber, coal, cement and all building stock.

Fred C. Nave, Neola Elevator Co., Chicago, Ill.

J. A. & W. Bird & Co., Chicago, Ill.; roofing and building materials.

A. Hollister, Flairner & Fellows Lbr. Co., Chicago Heights, Ill.; lumber and building material.

J. C. Ralston, Ralston Bros., Caledonia, Ill.; lime, cement and millwork.

B. E. Warberg, Chicago Fire Brick Co., Chicago, Ill.; clay products.

T. W. Sessions, Alexander Lbr. Co., Canton, Ill.; lumber and building material.

N. E. Holden, Catlin, Ill.; lumber, etc.

Lewis P. Hurter, Wheelock Lbr. and Mfg. Co., Chicago, Ill.; millwork.

L. P. Buckley, Chicago Heights Lbr. Co., Chicago Heights, Ill.; lumber and building materials.

J. B. Graham, Marblehead Lime Co., Chicago, Ill.

N. J. Ludington, E. B. Blenn & Co., Chicago, Ill.; lumber.

F. J. Morse, Sandusky Portland Cement Co., Dixon, Ill.; cement.

E. F. Hunter, H. & E. F. Hunter, Chillicothe, Ill.; lumber.

A. C. Benson, Lumbermen's Mutual Insurance Co., Chicago, Ill.; fire insurance.

Clyde Achamire, Goodell-Skiles Lbr. Co., Chandler-ville, Ill.; building material.

H. B. Senneff, Chadwick, Ill.; lumber, coal, etc.

Roy H. Liggett, Liggett Lbr. Co., Camp Point, Ill.; lumber and building material.

Fred Stevens, J. L. Tarbox, Clayton, Ill.; lumber, building material, hardware, etc.

H. D. Osgood, Chicago, Ill.; lumber.

C. C. Bishop, Marblehead Lime Co., Chicago, Ill.; lime and cement.

R. C. Saunders, Alexander Lbr. Co., Chicago, Ill.

G. W. Reckette & Co., Chicago, Ill.; lumber, lath and shingles.

John N. Doerr, Chicago, Ill.; lumber.

A. G. Hammer, Foster Munger Co., Chicago, Ill.; sash and doors.

J. T. Schwab, Schwab Mfg. Co., Chicago, Ill.; sash, doors, etc.

R. Brewer, W. H. R. Kins Co., Cudahy, Wis.

F. W. Weinell, Aug. F. Wienel Lbr. Co., Columbia, Ill.; lumber and building material.

I. J. Harris, O. H. Paddock Lbr. Co., Coffeen, Ill.; lumber and building material.

Henry Fush, Cudahy, Wis.; lumber.

O. B. Anderson, C. F. Emerson Lbr. Co., Dixon, Ill.; lumber and building material.

L. C. Selirnnrillone, De Kalb, Ill.; lumber, coal and building material.

A. L. Dague, N. E. Holden, Danville, Ill.; lumber, etc.

- F. L. Hill, Danville, Ill.; lumber, lime and cement.
 E. W. Cass, Danville Lbr. Co., Danville, Ill.; lumber.
 Ed. H. Miller, Miller Bros., Davis, Ill.; lumber, coal, cement, etc.
 D. M. Holsinger, De Kalb, Ill.; lumber, coal and building material.
 Arthur L. Holmes, Michigan Retail Lbr. Dealers' Assn., Detroit, Mich.
 John E. Miller, Miller Bros., Davis, Ill.; lumber, coal, cement, etc.
 H. W. Harna, Wilbur Lbr. Co., Dixon, Ill.; lumber and building material.
 Geo. D. Lyon, Lyon Lbr. Co., Decatur, Ill.; lumber.
 Frank Mosher, Mosher & Embree, De Kalb, Ill.; lumber, coal, cement, etc.
 J. L. Buckley, Western Brick Co., Danville, Ill.; manufacturing and building brick.
 L. M. Loomis, Black & Loomis, Dallas City, Ill.; lumber and building material.
 Mrs. L. M. Loomis, Black & Loomis, Dallas City, Ill.; lumber and building material.
 N. E. Holden, Danville, Ill.; lumber, lime and cement.
 H. A. Turnip, Struter Lbr. Co., Donnellson, Ia.; lumber and building material.
 F. L. McGavie, McGavie Lbr. Co., Decatur, Ill.; lumber, lath and shingles.
 C. V. McClure, Elgin, Ill.; lumber.
 Mrs. Edmund Goedde, B. Goedde & Co., East St. Louis, Ill.; mill lumber.
 Edmund Goedde, B. Goedde & Co., East St. Louis, Ill.; lumber and millwork.
 Fred Crandall, Andrews & Crandall, East Alton, Ill.; lumber and hardwood.
 A. W. Bryce, The O. H. Paddock Lbr. Co., Edinburg, Ill.; lumber, building material and masons' supplies.
 John G. Evans, Atlas Portland Cement Co., Chicago, Ill.
 E. F. Gerner, Tibbitt-Cameron Lbr. Co., Rogers Park, Ill.; dealer in lumber.
 N. T. Hand, Stinson & Hand, Chicago, Ill.; lumber.
 J. A. Bryden, S. R. Cornish Lbr. Co., Clinton, Ill.; lumber.
 F. A. Moreland, J. A. & W. Bird & Co., Chicago, Ill.; roofing and building material.
 C. W. Downey, Neola Elevator Co., Chicago, Ill.; lumber, coal, building material and grain.
 E. W. Dimond, Capeon, Ill.; lumber, lime and cement.
 John Thompson, Neola Elevator Co., Cherry, Ill.; lumber, lime and grain.
 L. J. Thompson, Neola Elevator Co., Cherry, Ill.; lumber.
 Mr. Row, Neola Elevator Co., Cherry, Ill.; lumber.
 Wm. Lane, C. E. Lane, Chebanse, Ill.; lumber, coal and building material.
 D. B. Thompson, Neola Elevator Co., Chicago, Ill.; lumber.
 J. W. Overacker, Farmers' Elevator Co., Danforth, Ill.; grain, coal, lumber, etc.
 C. B. Hooten, Danville, Ill.; lumber and cement.
 W. F. Attley, Graft & Attley Lbr. Co., Durand, Ill.
 Geo. W. Hewitt, president T. A. Lord Lbr. Co., Downers Grove, Ill.
 E. E. Embree, Mosher & Embree, DeKalb, Ill.; lumber, coal and masons' supplies.
 Geo. M. Bryant, Depue, Ill.; lumber, grain and coal.
 R. A. McClelland, Boston & McClelland, Dwight, Ill.
 G. H. Geister, Geister Bros., Elgin, Ill.; lumber and coal.
 F. Struckman, McClure & Struckman, Elgin, Ill.
 F. W. Hammerschmidt, Hammerschmidt & Frange, Elmhurst, Ill.; lumber, etc.
 T. W. Nursen, The Alexander Lbr. Co., Earlville, Ill.; building material.
 W. H. Opie, Forest, Ill.
 C. T. Wade, Farina, Ill.; lumber and building material.
 J. N. Batch, Fairburg, Ill.; lumber and building material.
 N. D. Eckle, Eckle Bros., Forreston, Ill.; lumber, cement and coal.
 J. A. Tune, J. N. Batch, Farmburgh, Ill.; lumber, cement, etc.
 H. W. Booth, J. C. Simpson & Co., Galesburg, Ill.; lumber.
 E. W. Houghton, E. W. Houghton Lumber Co., Galva, Ill.; lumber.
 W. E. Connor, John Wheeler Construction Co., Genova, Ill.; lumber, etc.
 John Kallgren, Streeter-Kallgren Lbr. Co., Grant Park, Ill.; lumber.
 W. E. Ting, W. E. Ting Lbr. Co., Galesburg, Ill.; lumber.
 E. F. Kent, E. F. Kent & Co., Grindley, Ill.; lumber, etc.
 F. C. Smith, Harvard, Ill.; lumber, lime, etc.
 Earl R. Evans, Bunyan & Evans, Hammond, Ill.; lumber and building material.
 H. T. Brunning, H. G. Brunning Lumber Co., Havana, Ill.; lumber and cement.
 J. B. Pogue, Pogue Bros. Lumber Co., Hineckley, Ill.; building material and coal.
 E. E. Dubbs, Indiana Harbor Lbr. and Coal Co., Indiana Harbor, Ind.
 O. B. Fuller, Joliet, Ill.
 Chas. A. Schaeffer, Montgomery Lumber Co., Kenosha, Wis.
 Claude Nellis, Montgomery Lbr. Co., Kenosha, Wis.
 John Ennis, Cosgrove & O'Connell, Kinsman, Ill.; lumber and builders' supplies.
 W. J. Anderson, Alexander Lumber Co., Kankakee, Ill.; lumber.
 Dan O'Head, Kenosha Lumber Co., Kenosha, Wis.; lumber.
 F. Zimmerman, W. Wilson Lumber Co., La Porte, Ind.; lumber.
 W. J. Herring, P. A. Lord Lumber Co., La Grange, Ill.; lumber and millwork.
 J. G. Heurt, P. A. Lord Lumber Co., La Grange, Ill.; lumber.
 H. S. Downey, Neola Elevator Co., Ladd, Ill.; building material.
 A. E. Haygman, Neola Elevator Co., Maryland, Ill.; lumber.
 E. R. Spencer, Hunter-Allen Co., Magnolia, Ill.; building material.
 O. F. Weber, Mason Lumber and Coal Co., Mason City, Ill.; lumber and coal.
 W. A. Brandy, Mason City, Ill.; lumber.
 Clinton C. Goodrich, F. H. Goodrich, Minonk, Ill.; lumber and building material.
 J. O. Tomlinson, O. H. Paddock, Morrisonville, Ill.; lumber.
 F. W. Mueller, Mueller Lumber Co., Moline, Ill.; lumber.
 Geo. J. Hacker, Mokena, Ill.; lumber and building material.
 H. R. Beatty, Beatty Lbr. Co., Morris, Ill.; lumber.
 F. L. Stevens, Morris Lumber Co., Morris, Ill.
 Henry Weegar, E. A. Lord Fuel and Ice Co., Monmouth, Ill.; building material.
 C. A. Lord, E. A. Lord Fuel and Ice Co., Monmouth, Ill.; cement, lime and building material.
 L. M. Fralich, W. M. Simpson Lumber Co., Mt. Pulaski, Ill.; dealer in lumber.
 J. B. Douglas, Alexander Lumber Co., New Berlin, Ill.
 R. Thomas, Newman, Ill.
 Mrs. R. Thomas, Newman, Ill.
 Chas. L. Schwartz, Naperville, Ill.; lumber and building material.
 Michael Schwartz, Naperville, Ill.; lumber.
 E. W. Smith, Bryant Bros., Oak Park, Ill.; lumber.
 Fred Dervin, J. W. Mackemer & Co., Peoria, Ill.
 E. B. Kipp, Pontiac, Ill.; lumber and masons' supplies.
 Robert Coddington, Andrews Lumber Co., Paxton, Ill.; lumber, cement, etc.
 B. L. Willet, E. Willet & Co., Poplar Grove, Ill.; lumber.
 J. E. Hollister, Pecatonica, Ill.; lumber, etc.
 A. J. Hersch, Polo, Ill.; lumber, cement, coal, etc.
 E. V. Crescent, Smith, Daklain & Crescent Co., Rockford, Ill.
 W. G. Wheeler, Rockford, Ill.; lumber.
 W. W. Sawyer, Rockford, Ill.
 N. H. Parsons, Parsons Lumber Co., Rockford, Ill.
 Geo. H. Danforth, L. J. Danforth & Co., Washington, Ill.; lumber, sash and doors.
 Floyd E. Covalt, West McHenry, Ill.
 Prosper Gander, West Brooklyn, Ill.; cement.
 F. W. Martin and wife, Watseka, Ill.; lumber.
 A. J. Thompson, Johnson, Smith & Co., Zion City, Ill.; lumber and building material.
 H. E. Curtis, Tiskwa, Ill.; lumber, coal, cement, etc.
 W. G. Nelson, Neola Elevator Co., Thomson, Ill.; building material and masons' supplies.
 J. LeRoy Johnson, Johnson, Smith & Co., Zion City, Ill.; lumber and building material.
 A. V. Schermerhorn, Ridge Farm, Ill.; lumber, building material, cement and plaster.
 Wm. Rinkenberger, Washington, Ill.; lumber and builders' supplies.
 J. G. Nolan, Rushville, Ill.; lumber, lime, cement, etc.
 R. L. Jones, Fred A. Smith Lumber Co., Rockford, Ill.
 R. E. Johnston, Johnston Lumber Co., Rock Falls, Ill.; lumber, coal and cement.
 C. E. Van Nice, Alexander Lumber Co., Roberts, Ill.; lumber and plaster.
 A. Held, Alexander Lumber Co., Royal, Ill.; lumber and building material.
 D. E. Wilson, Sidell, Ill.
 Roy B. Jones, Sadorus, Ill.
 Earl V. Miller, Frank D. Lawrence, St. Charles, Ill.; lumber and building material.
 Mrs. W. Miller, St. Charles, Ill.
 R. F. Nelson, Steward, Ill.; lumber and builders' supplies.
 R. H. Mathis, The North Side Lumber Co., Sycamore, Ill.; lumber and masons' supplies.
 V. I. Clark, North Side Lumber Co., Sycamore, Ill.; lumber and masons' supplies.
 A. H. Holcomb, Holcomb Bros., Sycamore, Ill.; lumber and masons' supplies.
 J. H. Lebrich, Springfield, Ill.; lumber.
 E. R. James, Grand Rapids Plaster Co., Evanston, Ill.
 John Coveny, William Hoskins & Co., Elizabeth, Ill.; lumber, lath, shingles, etc.
 C. G. Maywood, Elgin Lbr. Co., Elgin, Ill.; lumber.
 W. M. Sanford, Sanford & Zartman Lime Co., Freeport, Ill.; lumber and coal.
 J. E. McJilton, Fisher, Ill.; lumber and building material.
 W. E. Fry, Thompson, Huenkemeier & Fry, Freeport, Ill.; lumber, coal and wood.
 B. P. Hill, The B. P. Hill Grain Co., Freeport, Ill.; lumber.
 F. W. Miller, J. E. Hollister, Freeport, Ill.; lumber, coal and wood.
 Eugene Miller, J. E. Hollister, Freeport, Ill.; lumber, coal and wood.
 W. E. Fry, Thompson Huenkemeier & Fry, Freeport, Ill.
 A. E. Burnside, Charles Harbaugh, Fox Lake, Ill.; lumber and building material.
 Earl Wolcott, Elmer Wolcott, Filmore, Ill.; lumber, sash, door and masons' supplies.
 Elmer Wolcott, Filmore, Ill.; lumber, millwork, lime, cement and sewer pipe.
 M. T. Moore, Alexander Lumber Co., Gibson City, Ill.; lumber.
 W. O. Houghton, E. W. Houghton Lbr. Co., Galva, Ill.; lumber.
 J. W. Goss, J. W. Goss & Co., Ganesco, Ill.; lumber.
 C. O. Lewis, W. E. Terry Lbr. Co., Galesburg, Ill.; lumber and building material.
 J. W. Shertz, P. Schertz & Co., Gibson City, Ill.; lumber and building material.
 Henry Tripp, Tripp Bros., Greenview, Ill.; lumber and building material.
 Frank D. Lawrence, Geneva, Ill.; dealer in lumber builders' supplies.
 J. A. & W. Bird & Co., Chicago, Ill.; roofing and building materials.
 T. R. Newton, Newton & Barthke, Glen Ellyn, Ill.; lumber, coal, feed and mason materials.
 J. Ross McClure, Simpson McClure Lbr. Co., Galesburg, Ill.; lumber and building material.
 E. W. Mutyna, Galena, Ill.
 T. J. Birmingham, W. Hoskins & Co., Galena, Ill.; lumber, etc.
 E. O. Engstrand, E. W. Houghton, Galva, Ill.; lumber, sand, doors, etc.
 E. P. Deming, Hammond Lbr. Co., Hammond, Ind.; President Indiana Retailers' Association.
 H. H. Kischhoff, Kishhoff Bros., Hampshire, Ill.; lumber and masons' supplies.
 G. H. Franzly, Hannenheundr & Franzly, Elmhurst, Ill.; cement, coal, etc.
 Peter Beck, Beck Coal & Lbr. Co., Harvey, Ill.; coal and lumber.
 W. L. Lurrage, Linnage Bros., Hanover, Ill.; lumber.
 Elmer B. Ceatts, Nerla Elevator Co., Hinkley, Ill.; lumber and coal.
 E. C. Crawford, J. Crawford & Sons, Hindsboro, Ill.; lumber, lime, etc.
 B. P. Coe, O. H. Paddock Lbr. Co., Henton, Ill.; lumber.
 F. W. Kammann, F. W. Kammann, Herscher, Ill.; lumber and masons' supplies.
 R. A. Hooton Lbr. Co., Chicago, Ill.
 H. R. Adams, Charles Harbaugh, Ingleside, Ill.; lumber, cement, etc.
 A. W. Hays, A. W. Hays, Joliet, Ill.; cement, lime, etc.
 Henry Leuch, Henry Leuch & Son, Joliet, Ill.; lumber, etc.
 E. W. Stotlar, Stotlar Herrin Lbr. Co., Johnston City, Ill.; lumber, lime, etc.
 Daniel O'Connell, Cosgrove & O'Connell, Kinsman, Ill.; lumber and builders' supplies.
 C. Ruehle, C. Ruehle, Kankakee, Ill.; lime, cement, etc.
 Harry H. Gorsuch, Southwestern Lumbermen's Association, Kansas City, Mo.
 H. H. Troup, H. H. Troup & Co., Kankakee, Ill.; lumber.
 Shelley H. Montgomery, Montgomery Lumber Co., Kenosha, Wis.; lumber, etc.
 H. R. Bradford, Streeter Lbr. Co., Keokuk, Ia.; retail lumber.
 G. D. Streeter, Streeter Lbr. Co., Keokuk, Ia.; lumber, etc.
 H. Silverman, Kemlu Lumber Co., Chicago, Ill.; lumber.
 T. H. Johnston, Johnston Lumber Co., Kewanee, Ill.; lumber, etc.

THE OHIO MEETING.

Best Annual Convention in the History of the Association.

The Ohio Builders' Supply Association held their annual meeting on February 4 and 5. The opening session was called to order by President Fay in the meeting room of the new Hotel Secor, Toledo, O., and he introduced one of the most popular men in the builders' supply business, Richard Kind, and chairman of the local entertainment committee of this retailers' meeting. Mr. Kind in turn presented Honorable Brand Whitlock, who is attributed to be of the people for the people, and held the peculiar position of representing all the political parties by delegation for his election to the office of mayor. One of his strong points is that he does what he says he will, and he is a man of character and ability.

Of course, the mayor of the city has to entertain Elks, undertakers and everybody else who come to town, and Toledo, by the way, is becoming quite a convention city, but you can feel satisfied that when he says a thing he will do it, and that assured us a welcome at his hand.

The mayor said in part: "The province of one who bids you welcome is to make you feel at home, and I come here with pleasure, because I want you to recognize that this is more than a formal welcome; it is the sentiment of our people. You have their good will, and while I have no keys to offer you, as has been the custom for years, no keys are necessary in a Golden Rule city, for I have come here to make you one of us during your sojourn in the city and trust your stay will be a pleasant one."

"You know our city was named for a gentleman who produced the Golden Rule in ruling our city, and it is a reflection on some of us if we do not live up to this rule. We feel the atmosphere in our city is of a healthy kind and we know you will do us good, and we hope you will enjoy everything while you are one of us, as we all do a bright sunny day."

Mr. Kind then introduced "Uncle" Peter Degnan, who he stated had been to Ireland, and believed that he had rubbed up against the Blarney stone and even bit off a corner. "Uncle" Peter was received enthusiastically, because he is one of the real sort who has many friends. He said: "Many a man lives three score years and is never accused of being able to make a speech; I appreciate the honor of being recognized on your program, but I think I have been slandered, as I deny having kissed the Blarney stone, because it is a very difficult matter to do it. Our mayor's welcome was genuine when he said you should each be one of us while here, and in behalf of the builders' supply people of our city I welcome you. We do not need to open the gates to you, they are already open. Our homes, business houses and our hand of friendship, as well as our hearts, are open to receive you to us."

G. B. Stover, secretary of the Chamber of Commerce, was unable to be present, but Assistant Secretary Benham did not leave the space vacant. He said: "I am glad to see you here. The white men following the aborigines have stayed here seventy-



FRANK HUNTER, COLUMBUS, O., PRESIDENT, OHIO BUILDERS' SUPPLY ASSOCIATION.

five or one hundred years and found it a good place, and I trust you will feel the same way. We handle the materials with which you are familiar. When we arrived we found clay here, but it had not been baked. We had sand in the bottom of the river, and iron and minerals in the ground. We had the wealth but we had not used it. I judge from looking over your countenance and what I have heard of you you are a bunch of live wires, and when you are banded together it certainly means a successful organization. We have recently reorganized the Chamber of Commerce and have some 700 members. Our organization has to do with everything in the city, in benevolence, business and health; our convention committee invited you to come and I believe you will find it to your interest to meet with us. We are going to have other conventions; we are going to give a military tournament where 5,000 men from all branches of the army will meet within the gates of our city, and in addition will have a maneuver of all the ships in the navy in inland waters. This, we think, will interest all who come to us on that occasion.

"We propose to have a carnival in August, and hope to welcome you then. I am sure there is nothing too good for you, and I trust you will have a good time."

S. J. Pickett, one of the local committee and president of the Builders' Exchange, was introduced, and he said: "I have known Mr. Kind many years. He has always been friendly to me until today, when he called on me to make a speech. I welcome you in behalf of the Exchange, and assure you that your competitors in Toledo are good workers. If you are as good as our local boys you are all right, and can have anything you want in our city."

President Fay in response said: "Words will not portray the appreciation of our association of your welcome, gentlemen; we are glad we came."

Mr. Kind then announced the afternoon session would be executive in character, and while this business session was on the visiting ladies would be entertained with a trip around the city in the private car "Toledo." He invited the sewer pipe and cement men to join, saying: "Ordinarily I would not extend this particular invitation, but will make an exception in this case." The trip embraces a look in on twenty-two miles of the Maumee Valley's historical points, including Ft. Miami and a visit to the residential section, as well as the manufacturing end of the city. It is worth the while of any visitor. He also announced that the party would be entertained at the Lyceum Theater that evening. "Haven't seen the actors, but I am sure you will enjoy it, for there is no good entertainment that wishes to pass Toledo."

Trip Around the City.

The trip to the points of interest in Toledo was one of the pleasant features of this convention, and all were enthusiastic with the outing. The ladies' reception committee, of which Mrs. Richard Kind was chairman, was composed of Mrs. W. O. Holtz, Mrs. Gallagher, the Misses Degnan and a large number of the Toledo ladies, who made every function of an entertaining character a success. The theater party was also a pleasant affair—a melodrama. Some of

the staid old fellows who knew all about vaudeville but were not up on real life portrayed on the stage had a big time. There were brides and grooms, including Mr. and Mrs. George Gengnagle, Mr. and Mrs. Frank Culver, Mr. and Mrs. Jones. Oh, we could not begin to mention them all. When they returned to the hotel all expressed themselves as having spent a most pleasant evening.

The general session of dealers and manufacturers was opened in the afternoon, owing to the fact that the executive session was continued to the morning of February 5.

The visiting ladies assembled at noon, and Mrs. A. L. Gallagher and Mrs. Frank Culver entertained them at the Toledo Yacht Club, of which Commodore Gallagher is president, and they all had a delightful luncheon. In the afternoon the party was taken on a special car to the Lenk Wine Company's plant, which was inspected and a cask supposed to hold 36,000,000 gallons was duly tested.

EXECUTIVE SESSION.

PRESIDENT FAY'S ADDRESS.

In calling to order the third annual convention of the Ohio Builders' Supply Association, I cannot refrain from congratulating you upon the large attendance, especially since most of you have come long distances to attend the meeting.

It not only demonstrates your enthusiasm for and loyalty to our cause, but shows that you have come here to contribute your moral support, to help strengthen the association and put it on a good working basis that will be beneficial to all.

Associations for the most part, are nothing more nor less than business propositions, and should be given as much attention, care, and consideration as any deal we effect while transacting our daily business.

My own association with you has taught me many good points, which have been successfully applied to my business, and I am sure there is not one of you here today who will not admit that he has learned something that has done him some good in a business way.

The man who derives benefits from this association, is not the fellow who comes merely to have a good time, but the one who enters into the work with the proper spirit, the one who engages in the discussions at the meeting, the one who tries to uplift it and help others make it a success; these are the class of members we are seeking.

Our dealings are not directly with finances, but with generalities, and, if we, through our association receive benefits therefrom, why should we not treat it as a business proposition and lend every effort to make it a success.

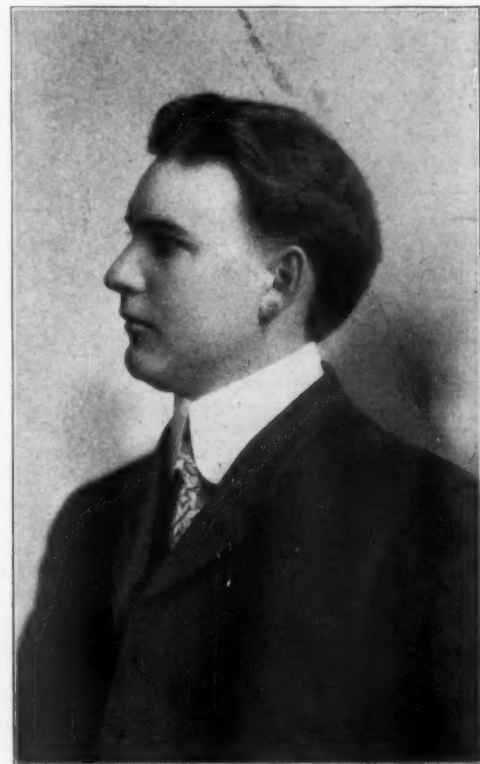
The Ohio Builders' Supply Association, though yet young, is fast developing into a strong factor as a go between with the manufacturer and dealer—it has done much towards the betterment of conditions as regards defining the channels in which each of us should operate. It has put us on a more friendly footing, and, in fact, our open meetings have come to be long looked forward to affairs.

I do not claim that all the known so-called evils have been eliminated, but by persistently continuing the good work that has already been begun, success will surely be ours.

Personally I have always looked upon the manufacturer as a man who was willing to co-operate in every



BERT J. GRAHAM, CLEVELAND, O., SECRETARY, OHIO BUILDERS' SUPPLY ASSOCIATION.



R. E. DO VILLE, TOLEDO, O., TREASURER, OHIO BUILDERS' SUPPLY ASSOCIATION.

possible way. He wants you to organize. He is as glad to be told of his shortcomings as you are. He is not your enemy, but your friend, and sees very clearly that the proper channel to dispose of his goods is through you. I will admit there are some exceptions, and we should do everything in our power to show these their folly and get them to join our association.

One of our principal objects to favor associate members, and if we act accordingly all over the state, there will be no necessity of trying to convince manufacturers of the truth of the "Live and let live" motto. They will very quickly seek membership and this long-talked-of problem will be solved.

Considering everything, we have accomplished more as an association than could have been gained by ten times our number of unorganized men. Let us keep the same spirit and enthusiasm and prevail upon the material men all over the state to join us, and we will then be strong enough to do greater things.

One important question has been up during this administration—the need of a new lien law. We appreciate more than words can tell the necessity of this, and I trust it will come up again for consideration and that the new committee will be given more encouragement by the members than was the last.

In looking backward, I remember the first call sent out to meet at Columbus for the purpose of forming an association. This handful of men recognized the need of organizing—and where can you find a more loyal few—always conspicuous when called upon to assist and the kind that constitute the backbone of the association. It is a deep personal regret that I cannot class myself among these gentlemen. If the privilege or good fortune was not ours to be present at the christening, why not help nurse the baby into strong manhood? By this I mean, our actions should be a good example for our neighbors, and we may then consistently expect him to live up to the Golden Rule.

I favor very much the plan to systematize our association work, insofar as affiliating with the National Association, and believe that all state associations should be a part of the national; surely our interests are mutual and there is no reason why we should not merge, and send delegates each year from every state. I believe with this plan every state in the Union would soon be represented and the work could be carried on to a greater degree of satisfaction than under the present system, at the same time not hindering in the least our present mode of procedure.

Permit me to thank you for your support during my two years as president, and most especially I want to thank the officers and executive committee for the way they have worked, and I trust we will all go home imbued with the desire to see the Ohio Builders' Supply Association succeed.

The executive session was one of the best ever held in Ohio. The gentlemen all told their right names and talked about the things of interest to the retailer of building materials, and from the discussions and work handled it would seem that every man at the meeting was in earnest to make this association a power in Ohio. According to the committees appointed there is much to be done. Those selected were as follows:

Committee to look up lien law and if possible secure legislation which will be beneficial to both consumer and dealer: W. O. Holtz, Richard Kind, R. E. Denville, Toledo, O.

Committee appointed to visit the legislature and see if it would not be possible to secure relief from Valentine law, which is pernicious, inasmuch as it retards business men in protecting themselves against the ravages of illegitimate competition, poor salesmanship, overproduction and other causes for the reduction of profit-producing power. This committee was composed of R. Stanley Rhodes, Frank Hunter, D. L. Thompson, Jr., Columbus, O.

Secretary Graham stated that thirty new members were added to the membership roll this past year—quite a nice gain over former years.

The association prepared a set of recommendations to the National Builders' Supply Association, suggesting that the national body become a delegate body, and that the Ohio association be admitted to membership on that basis. That this association prepare on the recommendations of the following committee plans to secure not only increased membership, but bring about local organization in the various towns where two or more dealers are operating, and that each town send a delegate to the State meeting each year. It was further suggested that through this coöperation the national organization would be strengthened, the local association would be able to adjust matters in which the national body was not interested, and it would mean complete affiliation for the general protection of the dealer everywhere. The committee selected to go to Louisville and report back to the executive committee and who were authorized to finance any reasonable plan for the enlargement of this association were: C. J. McCracken, Cincinnati; George Gengnagel, Dayton; Richard Kind, Toledo; Peter Weigering, Defiance; W. O. Holtz, Toledo; W. A. Fay, Cleveland; R. Stanley Rhodes, Columbus; J. P. Garlyle, Columbus.

Officers Elected Were.

President—Frank Hunter, Columbus.
Vice-President—M. L. Brannan, Mansfield.
First Vice-President—George H. Junod, Athens.
Second Vice-President—J. B. Van Wagener, London.
Third Vice-President—F. M. Townsend, Zanesville.
Secretary—Bert J. Graham, Cleveland.
Treasurer—R. E. Do Ville, Toledo.

Executive Committee: W. A. Fay, Cleveland; Richard Kind, Toledo; Frank Hunter, Columbus.

The cities inviting the association to hold its semi-annual meeting were Cedar Point, Put-in-Bay and Toledo. After the smoker and all the entertainment Toledo furnished it is pretty nearly a dead cinch the executive committee will select the latter place for the summer meeting at the time the summer carnival is to be pulled off.

The General Meeting.

This meeting was practically a love feast between retailers and manufacturers. The new president, Frank Hunter, of Columbus, called the meeting to order and in that common-sense kindly way of his started the ball rolling by asking Mr. Warner to make his talk on harmony. It was something of a Fourth of July oration, but contained many good things of standard association doctrine, and it was enthusiastically received.

Mr. Hunter said: "Now I do not want to call on any one, I would like to have you all talk; this is a sort of a family meeting. We have kindred interests, and taking the word 'harmony' as a text, we can find many things in common, and by talking them over frankly with each other we will not only benefit our individual business but the trade at large.



GEORGE H. GENGNAGEL, DAYTON, O.

"I believe the manufacturer has found that it is better to do business through the retailer than with the contractor, who is here today and gone tomorrow. You can find the retailer to collect your bills, and you are supporting a regular institution conducted to cater to the wants of the people within certain boundaries, and if you are able to transact your business through this legitimate channel you find it not only more satisfactory, but as a general rule, more profitable.

"As a retailer of building supplies I am sure I am expressing the views of those in this association, and others as well, that it is to their advantage to buy from the legitimate manufacturer, supporting his business and organization. We thus not only gain his good will and coöperation for legitimate channels in the builders' supply business, but have the satisfaction of buying what you need, have it delivered when you need it, and the word reciprocity is exemplified in the transaction. Your success is our success and by coöperation we both get the money. We have mutual interests and by working in harmony the retailer gains a livelihood and the manufacturer sells his product."

William Shearer, of the United States Gypsum Company, was called on as being a representative institution. He said: "We believe in the live and let live policy; in other words, sell to dealers only." Mr. Shearer said: "I have known Mr. Hunter for many years, in fact I have waded the muddy roads with him years back. I am sure the interests of the manufacturer and dealer are in common, the manufacturers of plaster believe in organization, and we

want to coöperate with you to strengthen the arms of this association; help you increase your membership so that your organization will be a power. This larger organization only comes about from individual effort, and I am sure that our company will be glad to have our men make it their special business to advocate your association and increase your usefulness. We believe in you and feel you are better customers if you have a good strong organization. We take the raw material and prepare it for your use. We believe in your organization and will be glad to coöperate with you."

The president said: "We think the retailer is the natural distributor of the manufacturers' product, and are glad to see our friends coöperate to that end, for each then in their particular province secures profit from the business. I recognize that the interests of manufacturer and dealer are identical. You cannot separate them."

Mr. Shearer then said: "I got one good pointer from Mr. Thompson which paid me for coming to this meeting. I find every man who is here has been benefited by associating with the other fellow."

The president continued: "We have had some very pleasant experiences with the manufacturers, but often we have been disturbed by speculators in the business, the jobber who sells stuff to the contractor because he just cannot get an order out of a retailer, as it is impossible to buy from every one. My experience is that the manufacturer generally is willing to protect the retailer, but not the distributor when he is speculating at both ends. Now we have a case in point where a broker in groceries or something else will tack on cement or lime. He has no fixed expense for yarding or handling stock, as we have, and figures on a small commission and will go to a contractor and sell at any old price because he perhaps is not familiar with conditions. Of course, that kind of competition is a disadvantage to the retailer. The consumer naturally being selfish, if he can buy lime or cement cheaper than the retailer is willing to sell it, why he is looking after his own bread and butter."

Charles L. Johnson, of Castalia, then quoted from Judge Gary's remarks in regard to association. Citing the fact it was not improper to meet, when men got together for the purpose of improving their condition. The judge also stated that the time had come when business would be conducted on a different plan than formerly, which meant "Might makes right." It is now "Right makes might." Mr. Johnson said: "In my fifteen years' connection with the cement business, I believe I am one of the oldest. I have not had a contractor on my books, and our losses were less than \$300 in ten years, showing it is much better to handle your stock through the established retailer."

Our friend Rardin from Athens complimented the salesman on the general proposition in connection with the cement trade, especially Mr. Johnson, but said: "You know the retailer cannot always handle every brand of cement. If he did he naturally would give his business to one or two, because it is impossible for him to carry stock of every brand of cement made. It would be very much easier if we could get our manufacturing friends to sell strictly through the dealer and make it possible for local men to get together to protect themselves, and they would all feel like going to these meetings and coöperating towards the channel of reciprocity only."

The president then said: "The fact remains that the manufacturer must sell his goods, and while we cannot all sell in the same town if we get closer together as dealers and manufacturers it will be easier to maintain the protected conditions that will help us all.

"A man was asked the other day how many retailers of builders supplies there were in the State, and somebody said not under 169, but in fact there are nearly 1,000, and if they would all work with this organization it would be easy to control the situation for the benefit of our trade, and no one would be overcharged. I have seen manufacturers make sacrifices to protect retailers and we should return the compliment."

George H. Junod said: "We have three dealers in our town, and we cannot sell but six brands of cement. Now if a manufacturer comes in and says, 'We want to introduce our brands here,' he does not get our order. 'Well, I have to sell somebody in this town, guess it will be this contractor who is building the postoffice,' and the result is we are cut out of a lot of business that really belongs to the local man and we suffer therefrom. Now if we could be in closer harmony; if our friends would be like most of the manufacturers and protect us in our own town it would be easier to gain a profit in business."

Charles O'Donnell, of Bellefontaine, was called on and he said: "The only difficulty I see in your

association is you have not members enough. You should have 1,000 members, and the Buckeye Portland Cement Company prefers to do business through the retailer. We do all our business in Ohio, and practically 93 per cent of it is cash in ten days, but you have to get the retailers all in your association if you wish to accomplish what you are after and protect yourselves against the manufacturer who does not always remember that dealers have rights in the case."

Several announcements were then made by Secretary Bert J. Graham, among them that a special car had been provided to take delegates to Louisville; that there would be a smoker in the evening at the Elks' Home, where all were invited. The Builders' Supply Association being composed of live wires a number of manufacturers joined the association.

Mr. Holtz said: "We have six dealers in builders' supplies in Toledo; they are all members of this association and are at this meeting."

President Hunter then said: "It seems to me our friends have excelled themselves in entertaining us at Toledo, and I will be glad to recognize a motion to extend the thanks of this association for the hospitality and special assistance in making this a successful meeting."

Mr. Fay said: "My pipe is out, but I am glad to make this motion." It was unanimously voted to extend the thanks of this association for the excellent entertainment in Toledo.

Mr. Shearer then suggested it would be a good thing if the manufacturers would get some applications and have the traveling men try and get members for the association, and spread the influence of this good meeting, and endeavor to assist the organization to be larger, better and more useful. "At this time there are 106 active members in this association, only thirty-five of that number being present."

THE SMOKER.

The entertainment committee, which was composed of Richard Kind, R. E. Do Ville, W. O. Holtz, B. F. Jones, A. E. Munz and Fred Boice, prepared a smoker at the Elks' Home, which was a delightful affair. Tables were set for 150 people at 6:30 and every man and lady present was delightfully regaled. A Dutch lunch was served, and the party sat for two hours at dinner and then were assisted in enjoying themselves by a vaudeville show of unusual merit. While local talent had been largely selected, one could see that it was of the highest class, for the entertainment was great. Chairman Kind was everywhere, and after five hours there was no one tired, and he was anxious to congratulate the local committee on their excellent preparations and did so. The grand finale of this Ohio meeting was a success in every particular. One could individualize as to the menu card and the various acts put on, but space will not permit. We have only this to say—Toledo with its beautiful Secor Hotel, and with the spirit of good fellowship that pervades the business men and their wives in that growing city, you can absolutely depend on them getting any convention they ask for, if any one on the committee has ever been there before. Toledo is a success as a host, and the builders' supply men are the liveliest members in that live community.

THE ATTENDANCE

Bert J. Graham, W. A. Fay, O. J. Houck, Masons' Supply Company, Cleveland, O.
Wm. Wallace, W. B. Stephan, R. S. Rhoads (Columbus, O.), American Sewer Pipe Company, Pittsburg, Pa.
E. S. Smith, J. J. Urschel, Wm. Urschel, S. N. Fox (Delta, O.), O. C. Maurer, G. M. Uthoff (Genoa, O.), G. M. Faist, Woodville White Lime Company, Toledo, O.
A. M. Gallagher (Toledo, O.), F. S. Culver, Ohio & Binns Retarder Company, Point Clinton, O.
F. G. Munz, A. E. Munz, Geo. M. Meyers, Buckeye Builders' Supply Co., Toledo, O.
W. W. Fishack, W. O. Knacofe, L. E. Fishack, Charles Keller, Fishack Plaster Company, Toledo, O.
A. R. Kuhlman, Richard Kind, B. F. Andrews, T. D. Doherty, J. P. Degnan, F. J. Degnan, P. H. Degnan, Toledo Builders' Supply Company, Toledo, O.
E. DoVille, E. J. Whiteford, R. E. DoVille, S. P. Gisel, H. J. Barnes, Ohio Builders' Supply Company, Toledo, O.
E. B. Stanley, Clinton Metallic Paint Company, Clinton, N. Y.
H. B. Arnold, Dayton Builders' Supply Company, Dayton, O.
P. R. Harrison (Columbus, O.), S. E. Fox (Fostoria, O.), James Loenhouts, Grand Rapids Plaster Company, Grand Rapids, Mich.
Harry Blum, Fred Boice, People's Builders' Supply Company, Toledo, O.
D. K. Thompson, Jr., Frank Hunter, Columbus Builders' Supply Company, Columbus, O.
C. A. Erwin (Columbus, O.), E. W. McCausland (Cleveland, O.), O. H. Himmelright (Piqua, O.), H. W. Blockson, W. E. Shearer, G. D. Elwell, U. S. Gypsum Company, Cleveland, O.
W. O. Holst, R. G. Crawford, C. H. Belns, Ray Holst, W. O. Holst Builders' Supply Company, Toledo, O.
C. J. McCormick (Columbus, O.), Robert C. Mitchell, E.

C. Van Epps, C. F. Miller, L. G. Powell, O. H. List, Cleveland Builders' Supply Company, Cleveland, O.
W. J. Prentiss, C. L. Johnson, Castalia Portland Cement Company, Sandusky, O.
A. R. Black, F. J. Griswold, American Gypsum Company, Point Clinton, O.
M. A. Maher, Greenville, O.
S. J. Picketts, Toledo Builders' Exchange, Toledo, O.
E. A. Gale, Toledo, O.
E. H. Fishack, Consumers' Gypsum Company, Point Clinton, O.
G. J. Markley, John Davy, Federal Clay Products Company, Mineral City, O.
W. Whaley, Cleveland-Akron Company, Cleveland, O.
G. H. Gengnagel, Schaeffer & Gengnagel, Dayton, O.
Harry S. West, National Builders' Supply Association, Toledo, O.
W. B. Bergin, Robinson Graves Sewer Pipe Company, Toledo, O.
E. G. Way, Toledo, O.
H. L. Cope, Alma Portland Cement Company, Wellston, O.
James A. Ryan, Cedar Point on Lake Erie, Sandusky, O.
W. W. Davis, Jatte Paper Bag Company, Cleveland, O.
S. W. Gibson, Masons' Supply Company, Cleveland, O.
W. E. Cobean, A. Kendall, Jr., Wolverine Portland Cement Company, Coldwater, Mich.
Chas. Schmutz, Superior Portland Cement Company, Cincinnati, O.
Frank Shenkl, Federal Clay Products Company, Mineral City, O.
Fred H. Fogarty, Granite Clay Company, Akron, O.
E. Harpham, Buckeye & Summit Sewer Pipe Company, Akron, O.
J. O. Sharp, Harbison-Walker Refractories Company, Pittsburg, Pa.
J. W. Windsor, Pittsburg, Pa.
F. G. Black, M. L. Braman & Bro., Mansfield, O.
A. J. Clementz, Massillon, O.
G. M. Mossman, Huntington, W. Va.
G. B. Christian, Jr., Ohio & Western Lime Company, Marion, O.
J. W. Thomson, A. H. Thomson & Son, Coshocton, O.
John J. Welch, Doherty & Co., Toledo, O.
Henry D. Yates, Delaware, O.
J. E. Cooper, Robinson Clay Products Company, Akron, O.
Amos Kendall, Sr., Omega Portland Cement Company, Toledo, O.
R. G. Spencer, Jr., National Lime & Stone Company, Carey, O.
Frank Konst, Konst & Moore, Continental, O.
L. C. Kaplin, Thomas Phillips Company, Akron, O.
Elmer E. Stilwell, E. E. Stilwell Supply Company, Bellefontaine, O.
G. W. Muntis & Son, Lima, O.
C. H. Brigham, Atlas Portland Cement Company, New York City.
W. A. Milchem, Phillip Carey Company, Toledo, O.
Henry Williams, Ottawa, O.
P. R. Clark, General Fireproofing Company, Youngstown, O.
E. F. Gregg, Lake Erie Builders' Supply Company, Cleveland, O.
J. L. Price, J. L. Price Company, Marion, O.
Morris M. Hunter, Edison Portland Cement Company, Pittsburg, Pa.
J. L. Nelson, Universal Portland Cement Company, Pittsburg, Pa.
J. B. Van Wagner, London, O.
P. Welgensing, Defiance, O.
C. B. Rogers, National Fireproofing Company, Cleveland, O.
T. D. Doherty, Jr., Doherty & Co., Toledo, O.
G. L. Morris, George C. Harcourt, Wabash Portland Cement Company, Detroit, Mich.
W. S. Sutliff, W. S. Sutliff & Co., Fostoria, O.
M. Hobart, Hobart Bowlus Company, Pemberville, O.
W. H. Snyder, Carey, O.
Sam D. Dare, Toledo, O.
H. F. Ranch, Whitehall Portland Cement Company, Philadelphia, Pa.
Daniel A. Rarrell, Rarrell Brothers Lumber Company, Athens, O.
H. E. Hendrick, J. W. Taylor, Scioto Lime & Stone Company, Delaware, O.
M. W. Battenfield, Clark & Battenfield, Delaware, O.
J. D. Rumsey, J. D. Rumsey Tile & Brick Company, Stryker, O.
F. B. Jones, Acme Builders' Supply Company, Toledo, O.
Geo. L. Wallace, American Rolling Mill Company, Middletown, O.
Robert Fox, Fostoria, O.
Louis Snyder, Lancaster, O.
H. A. Eberts, Eberts Bros., Wyandotte, Mich.
C. D. Owens, John D. Owens' Sons, Owen, O.
J. M. Sheridan, Sheridan Stucco Retarder Company, Toledo, O.
J. F. Twamley, Copley Cement Manufacturing Company, Philadelphia, Pa.
P. P. Quayle, Pittsburg and Buffalo Company, Cleveland, O.
P. H. Jandernal, Lehigh Portland Cement Company, Cleveland, O.
R. D. Bissonette, Aetna Portland Cement Company, Detroit, Mich.
W. W. Bale, Pennsylvania Portland Cement Company, New York City.
E. D. Clark, American Brick & Tile Company, Morenci, Mich.
W. H. Piper, S. G. Piper, Holgate Lumber Company, Holgate, O.
C. W. Cadwell, Cadwell Tile & Stone Company, Windsor, Ont.
F. J. Eggeman, Toledo, O.
H. D. Moorehead, Janesville, O.
F. P. Childs, New Lexington, O.
F. H. Holland, Kelly Island Lime & Transport Company, Cleveland, O.
Chas. E. Justus, Garry Iron & Steel Company, Cleveland, O.
W. C. Runyon, Lake Erie Builders' Supply Company, Cleveland, O.
W. H. Ostman, McGreevy & Ostman, Dayton, O.
H. C. Stimson, Sandusky Portland Cement Company, Sandusky, O.
Dan Evans, the John Evans Lime & Stone Company, Marion, O.
J. O. Adams, Coshocton Lumber Company, Coshocton, O.
G. W. Richards, Greenwich, O.
Herman Koester, Norwalk Brick & Stone Company, Norwalk, O.
H. D. Morrow, Morrow & Licklider, Piqua, O.
George H. Junod, Athens Lumber Company, Athens, O.

F. C. Spencer, Urschel Bates Valve Bag Company, Toledo, O.
S. L. Hoover, Alma Cement Company, Wellston, O.
W. W. Hoffman, Lorain Supply Company, Lorain, O.
Charles F. O'Donnell, Buckeye Portland Cement Company, Bellefontaine, O.
C. D. Warner, W. A. McCall, D. W. Smith, Dealers' Record, Chicago.
E. H. Diefenbaugh, Rock Products, Chicago.

The New Orleans Builders' Exchange.

The Contractors and Dealers' Exchange is becoming more and more a feature in the building operations in the city. One entire floor at their headquarters is devoted to building materials of every kind. The hollow concrete block manufacturers have blocks and pillars. Those who deal in roofing have exhibits of roofing. There is wood and plaster and cement and sand and shells and the endless lot of things that an architect specifies and a contractor calls for. It is really very interesting and said to be as good as the great international exhibitions or expositions, as far as it goes. Appended are the exhibitors to date:

The S. G. Del'Isle Co., Ltd., building specialties; Warner & Co., hollow concrete blocks; S. R. Stevens (office), yellow pine and hardwoods; Barrett Manufacturing Co., roofing materials; Keasbey & Mattison Co., asbestos shingles and products; P. J. Prosser, ornamental plaster specialties; F. Jahnecke, Inc., building supplies; J. C. Pearson Co., cement-coated nails; Thompson & Gelpi Co., Ltd., paints; The Philip Carey Co., flexible cement roofing; Harrison Bros. & Co., Inc., paints; Orleans Tile Manufacturing Co., hollow concrete block and tile; Stauffer-Eshleman & Co., builders' hardware; Kracke & Flinders, roofing and paints; Allen Tupper, cement and fire clay products; A. C. Andry, building specialties; Mills Concrete Block Works, hollow concrete block; Carolina Portland Cement Co., building materials; Contractors & Engineering Supply Co., building specialties; A. M. Lockett & Co., Ltd., steam heaters, power plant machinery; F. H. Koretke Brass & Manufacturing Co., brass goods and signs; Crescent Filter & Specialty Co., filters and plumbers' specialties; Bedell Structural Steel & Foundry Co., steel and iron; The American Paint Works, paint and lead; The Conneaut Shovel Co., shovels; American Sheet Metal Works, fireproof windows and doors; Peerless Wood Fiber Plaster Co., wood fiber plaster; Paraffine Paint Co., roofing, insulating papers; Bayou Sara Brick Co., brick; Whitney Supply Co., building materials; John C. Stone & Co., sash factory.

The Orleans Tile Manufacturing Company has an attractive exhibit of concrete columns, tarazo columns and floors and seagliola columns. There are also hollow tiles and specimens of flooring of the different materials shown.

Percy J. Prosser has a fine exhibit of ornamental plaster and molding for ceilings and walls.

The different roofing companies have exhibits of their roofings and booklets calling attention to their good qualities.

F. Jahnecke's Sons have an exhibit of sand and shells of several kinds, crushed stone, cement and waterproofing materials, all arranged in a manner that the purchaser knows at a glance what he is buying.

The Carolina Portland Cement Company has in its exhibit of cements a dainty Psyche that is very like it had been carved of purest white marble. It illustrates the possibilities of white cement when in the hands of an artist.

The S. G. Del'Isle Company has an attractive exhibit containing many building specialties in wood, tile, plaster and other things that make the finishing of a building always cost more than is first estimated when the collection is viewed.

The house finishings are always more attractive to the average visitor than the framing material of wood or steel, the component parts of the concrete and the reinforcing metal, yet to the contractor and to the one who has to do with these essentials the exhibit is always interesting. The means of ventilation are shown and the fireproofing and waterproofing and many of the other modern scientific methods employed in the building of the modern dwelling and office building to insure it against fire and yet have it sanitary and comfortable.

New Jersey Retailers to Meet in New York.

The Mason Material Dealers' Association of New Jersey will hold its annual convention on March 11 at the Manhattan Hotel, at Forty-second Street, near the Grand Central Station, New York City. The officers of the association cordially invite all members to be on hand for this occasion and hope to have every dealer in the state of New Jersey present, for the membership includes nearly all of the leading and representing interests of the state of New Jersey.

The Samuel J. Vail Company, 803-804 Hammond Building, Detroit, Mich., have issued an attractive little calendar for the month of February with a miniature ax in one corner and the inscription, "It cuts no ice with us whether the job is large or small,—will handle it, and in a satisfactory manner, too. Our real forte lies in filling orders with good material, billing at right prices, and shipping quick."

LIME MANUFACTURERS AT PITTSBURG

Best Meeting in the History of the Organization—Scientific Advice on Improvements, and Promotion of the Sale of More Lime Decided Upon.

Pittsburg, Pa., February 18.—The Seventh Annual Convention of the National Lime Manufacturers' Association closed a very interesting and profitable two days' session at the Ft. Pitt Hotel this evening. Representatives of most of the leading lime-producing concerns of America were in attendance, that is to say those large institutions of national importance which represent from 80 to 85 per cent of all the lime manufactured in the United States. A very great number of smaller lime manufacturers who together make up the remaining 15 to 20 per cent of the annual output were not represented, and this is the one disappointment of the association. Every effort had been made to attract the small lime producers into the lime association, because the benefits and the profits developed in an educational way are free to all and the actual participation of the entire industry would make it possible to adopt progressive measures that would seem to be well-nigh impossible without such assistance and cooperation.

It is apparent that the lime industry is going backward and not forward. The consumption of lime is on the decrease in spite of the fact that all of the heavyweights in the business are persuaded that a definite, organized campaign of promotion is urgent and necessary to bring the industry out of the rut that it has fallen into on account of neglect.

The men who compose the National Lime Manufacturers' Association are wide-awake and abreast of the times and deplore the apathy of the smaller lime producers who are scattered in all parts of the country, realizing that until something can be done to arouse them into action and cooperation little or nothing can be accomplished.

The gallant standard bearer of the association, President W. E. Carson, of Riverton, Va., stated that it was next to impossible to even get a response from a majority of the small lime producers to his urgent appeals for them to rally around the standard of the association, which has been and is persistently working for the benefit of every lime manufacturer in the country. These men do not seem to realize that the work which the National Lime Manufacturers' Association has already done has saved them so much of their business as is left; in fact, they have already received profit and assistance by reason of the work of the National Association, although they do not recognize the source of such benefits or realize that many of them would now be out of business were it not for the unselfish, untiring and intelligent work of the association.

There seems to be a peculiar disease in the lime industry which does not attach to other lines of human endeavor. It is a comparatively easy task to get the producers of other materials together for counsel, improvement and cooperation. The progress of other industries in winning the markets is directly in proportion to the amount of cooperation that exists and is maintained through the medium of the trade association.

The officers and members of the National Lime Manufacturers' Association are resolved to keep on with their enterprising work, in the hope that from some of their deliberations can be evolved a plan and a means to get all the lime interests to work together and place the venerable industry in the business world where it clearly belongs in the material world.

THE ATTENDANCE.

W. E. Carson, Riverton Lime Company, Riverton, Va.
Chas. H. Claiborne, Union Mining Company, Baltimore, Md.
Herbert and G. W. Harris, Lime Rock, R. I.
Richard McCoy, Powhattan Lime Company, Strasburg, Pa.
Frederick Irvine, Rock Products, Chicago, Ill.
A. A. Stevens, American Lime and Stone Company, Tyrone, Pa.
L. M. Palmer, Jr., Palmer Lime Company, New York.
Walter S. Sheldon, New Jersey Lime Company, Hamburg, N. J.
A. M. Holden, Genesee Lime Company, Honeoye Falls, N. Y.
T. E. Felscher, Sheboygan Lime Company, Sheboygan, Wis.
M. H. Deely, Connecticut Lime Company, Caanan, Conn.
M. C. McNeill, R. D. Wood Company, Philadelphia, Pa.
H. W. Smith, Chas. Warner Company, Wilmington, Del.
E. E. Klooz and Chas. M. Crook, Bessemer Limestone Company, Youngstown, Ohio.
W. A. McCall, Dealers' Record, Chicago, Ill.
C. W. S. Cobb, Glencoe Lime and Cement Company, St. Louis, Mo.
H. A. Buffum, Rockland-Rockport Lime Company, Rockland, Me.

W. A. Raupp, Pierce City Lime Company, Pierce City, Mo.
K. M. Fom, Youngstown Car Manufacturing Company, Youngstown, Ohio.
F. C. Lauer, Rochester Lime Company, Rochester, N. Y.
C. E. Hardig, Ladd Lime and Stone Company, Cartersville, Ga.
W. H. Bradley, Duff Patents Company, Pittsburg, Pa.
H. E. Bachtinkircher, Doies & Shepherd Company, Chicago, Ill.
A. T. Howe, Marblehead Lime Company, Chicago, Ill.
Irving Warner, Charles Warner Company, Wilmington, Del.
W. H. Barton, Ash Grove Lime and Portland Cement Company, Ash Grove, Mo.
C. C. Kritzer, The Kritzer Company, Chicago, Ill.
R. J. Hardig, Climax Lime and Stone Company, Wick, Pa.
A. N. Spencer, J. E. Morgan, G. G. Coolidge, Harbison-Walker Company, Pittsburg, Pa.
G. H. Keyes, C. A. Whiteside, Aetna Powder Company, Chicago, Ill.
Charles Warner, Charles Warner Company, Wilmington, Del.
W. B. Hill, Ash Grove Lime and Portland Cement Company, Kansas City, Mo.
P. J. Daurenheim, Chas. W. Goetz Lime and Cement Company, St. Louis, Mo.
Peter Martin, Ohio and Western Lime Company, Huntington, Ind.
Lawrence Hitchcock, Kelly Island Lime and Transport Company, Cleveland, Ohio.



W. E. CARSON, PRESIDENT NATIONAL LIME MANUFACTURERS' ASSOCIATION, RIVERTON, VA.

D. S. Hunkins, Peerless White Lime Company, Ste. Genevieve, Mo.
D. O. Markley, Northern Lime Company, Grand Rapids, Mich.
A. P. Freeman, Connecticut Lime Company, Caanan, Conn.
Luther Keller, Seranton, Pa.
L. A. Leit, Genesee Lime Company, Honeoye Falls, N. Y.
H. A. Gawthrop, Marion Lime and Stone Company, Norristown, Pa.
L. J. Buchert, Mitchell Lime Company, Mitchell, Ind.
A. M. Glasgow, Tennessee Marble Lime Company, Knoxville, Tenn.
S. V. Feppel, chemical engineer, Columbus, Ohio.
C. Oliver, Washington Building Lime Company, Buckeystown, Md.
F. P. Hunkins, Hunkins-Willis Lime and Cement Company, St. Louis, Mo.
J. K. McClannahan, Jr., American Lime and Stone Company, Hollidaysburg, Pa.
McClannahan Palmer Carson (a future president), Riverton, Va.
F. C. Spencer, Urschell-Bates Valve Bag Company, Toledo, O.
George Meldrum, Union Lime and Cement Company, Louisville, Ky.
James W. Wardrop, National Builders' Supply Association, Pittsburg, Pa.
Wm. Urschell, Woodville White Lime Company, Woodville, Ohio.
Morris M. Hunter, Edison Portland Cement Company, Pittsburg, Pa.
A. H. Lauman, National Mortar and Supply Company, Pittsburg, Pa.
Chas. E. Harris, Montpelier Lime Company and Bancroft Lime Company, Montpelier, Ida.
E. E. Wall, waterworks engineer, St. Louis, Mo.
E. W. Lazell, chemical engineer, Philadelphia, Pa.

OPENING SESSION, FEBRUARY 17.

Promptly at 10 o'clock, according to the printed program, with practically the entire attendance in the convention hall, President William E. Carson took up the gavel and declared the Seventh Annual

Convention opened for business to be brought before it. He opened with his annual address, which briefly sketched the work of the executive committee since the adjournment of the Cleveland convention in August up to the minute of the opening of the convention. The address was full of progress and enthusiasm, and a continued exhortation to the membership to continue steadfast in the stand that they have taken and in the work that they are doing until the final results of an improved, progressive industry will be reflected back as the result of the work of the association.

Walter S. Sheldon, president of the New Jersey Lime Company, read a paper entitled "A Study of the Lime Situation," which showed that he is an able and diligent student of the conditions that surround the lime business. He referred to the electrifying suggestion that was made by Charles Weiler, of Milwaukee, Wis., at the Cleveland convention on the subject of "The United States Lime Corporation," and said that the more he thought on that subject the more feasible such a proposition looked to him. He mentioned the necessity for going out after new uses and new combination of lime in structural, agricultural and other directions yet undiscovered. The paper was full of good, meaty suggestions.

President Carson read a number of letters, being the correspondence between himself and Charles Weiler, who is now sojourning on the Eastern Hemisphere about the cradle of the human family. Mr. Weiler's letters insist that the paper he read at the Cleveland convention will bear examination and will find greater appreciation as it is studied more, for it was not thrown out as a schoolboy's suggestion, but came from his own observations and comparison with other successful industries, together with information culled from his long experience in the lime business.

Peter Martin, of the Ohio & Western, doubted the possibility of such an organization, while A. A. Stevens, of the American Lime & Stone Company, pronounced the matter altogether feasible and quite possible, indeed probable in the very distant future.

Peter Martin brought up the ever-present subject that all the members of the association stand for a small tax based on the number of barrels of production for the purpose of employing capable engineers and chemists and evangelists to organize local communities and take up the most intelligent plans of a promotion campaign. He thought that this would eliminate practically all of the troubles in the business, at least the worst of them.

A. A. Stevens, of the American Lime & Stone Company, then read his paper, entitled "Territory Supply and Unwarranted Price Cutting." In his own energetic way Mr. Stevens related a number of actual experiences, making personal sallies of wit, but through it all was much conservatism. He energetically declared that he believed a national cooperating company could be worked out in fifteen minutes, something similar to Mr. Weiler's suggestion, if the men who formed the National Association really felt that it was desirable and really thought it best to do it.

Lowell M. Palmer, Jr., when called on for his opinion remarked it would take at least \$100,000,000 capitalization to swing a scheme which would amalgamate all of the lime-producing interests. He added that if the producers of hydrated lime had worked along modern business methods it would have done well and wrought the salvation of the old industry.

H. E. Bachtinkircher told of the splendid work of the Chicago Lime Association, a combination of the local interests, which maintains fifteen agents who are constantly out working among the contractors and reporting on each job daily. He insinuated that the results were very satisfactory.

Mr. Sheldon remarked that we only need cooperation to get the same thing for the whole industry.

THE AFTERNOON SESSION.

Mr. McCoy made an appeal in support of Mr. Martin's suggestions about booming the business by employing chemists, experts and organizing evangelists. He mentioned the nitrogenous microbes in legumes and other plants which flourish in a limed soil and restore the value of the land for agriculture. He told how carbide is made from

lime and coke. These suggestive remarks were well received.

The president then appointed the following men to act as the nominating committee to bring in the nomination of officers for the ensuing year: W. B. Hill, J. K. McClannahan, Jr., and Luther Keller, who retired from the convention to take up their deliberation.

Treasurer C. W. S. Cobb, Glencoe Lime & Cement Company, made his report showing the collections and giving in detail the expenditures of his office. There was a substantial balance in the treasury. The report was received and referred to the auditing committee on motion.

Charles Warner, of the Charles Warner Company, in his capacity as chairman of the Engineering Club, which has been in existence since the last annual convention, reported that his committee had been unable as yet to find a feasible plan that was sure of accomplishing the results which were the design and purpose of the club. He said that the matter was still alive, and undoubtedly if we could have a six months' period of good business something worth while could be accomplished in this direction. He suggested that the work be conducted as a part of the duties of the executive committee, and it was so ordered.

Mr. Sheldon, chairman of the standardization committee, stated that on account of business conditions which have prevailed since the Cleveland meeting little progress could be made. He announced that his committee would shortly meet with the directors of the various eastern agricultural experiment stations, in Boston. Each member of the committee had been notified to attend this meeting. The directors of the following stations will convene at Boston for the purpose of classifying fertilizing materials: Rhode Island, Massachusetts, Connecticut, Pennsylvania, New York.

Doubtless, the standards adopted by these leading experiment stations will have a strong advisory effect with all other institutions of this kind. Mr. Sheldon called attention to the necessity of having carefully prepared and tabulated data to place before these scientific gentlemen and said that his committee was doing all in their power to make the best business showing the committee was capable of.

Lawrence Hitchcock, of the Kelley Island Lime & Transport Company, read a paper, entitled "The Development and Furtherance of the Interests of the Lime Industry." Mr. Hitchcock told of a recent meeting at Toledo of the leading producers of lime in Ohio, Indiana and Michigan, where they had taken measures to conduct a publicity and promotion campaign, and he urgently recommended the National Lime Manufacturers' Association to adopt a resolution to the same effect so as to have this campaign to come under the auspices of the association.

Colonel Cobb responded by saying that is just what we ought to do, that it is the first and most important purpose of this association. It is the one thing that we have been working on from the start and all we want, need and hope for is the co-operation, assistance and contribution of the entire lime industry.

Peter Martin remarked that he appreciated this meeting more than any one in the past, for the reason that there had been so much discussion on the subject of promotion as the assistance of the selling end of the business, which, after all, is the one most important feature.

President Carson read a communication from the American Ceramic Society concerning the appropriation of Congress to meet the investigation work of structural materials through the laboratories of the geological survey. The communication urged the support of this association to the continuance of the appropriation to this purpose by Congress.

Colonel Cobb moved to take up both the suggestion of Mr. Hitchcock and the communication read by President Carson. He stated that a few men controlled the whole lime situation and he believed that the suggestions of both Mr. Weiler and Mr. Martin were progressive and should be adopted. On Mr. Stevens' motion to this effect, it was carried by acclamation.

At this point Luther Keller, from the committee on nominations, brought in the following list, which was unanimously and enthusiastically elected: President, William E. Carson, Riverton, Va.; first vice-president, Chas Weiler, Milwaukee, Wis.; second vice-president, Walter S. Sheldon, Hamburg, N. J.; third vice-president, M. H. Deely, Pittsfield, Mass.; treasurer, C. W. S. Cobb, St. Louis, Mo. Executive committee: Wm. E. Carson, ex-officio; Chas. Warner, Wilmington, Del.; T. E. Fleischer, Sheboygan, Wis.

Taking up the subject suggested in the president's annual address, by motion of Mr. Cobb, it was ordered that a committee of three be appointed to meet with the tariff division of the Ways and Means Committee of Congress, to place all the interests of the lime

association before them. Also that a committee of three be appointed to study the subject and report it at a future meeting, the question of insurance on lime plants and properties.

On motion of Mr. Stevens, a committee of three was appointed to investigate the gas producer problem. He suggested that a practical report would be much better than a technical investigation, as the actual work and physical output is what the manufacturer wants.

Charles Warner, on being called, said that his company were trying out the gas producer at the present time, and he thought it was questionable as to how much good such a committee could do.

On motion of Mr. Stevens, the president was provided with funds from the treasury to carry out the work that the action of the association placed upon him.

E. E. Wall, assistant water engineer of St. Louis, read a paper entitled, "The Use of Lime in Water Purification at St. Louis." This paper was very comprehensive, and gave the history of the very successful pure water plant which is now supplying the city of St. Louis, although taken from the Mississippi River in a very muddy condition. The sulphate of iron or copper, with calcium oxide is used to precipitate the impurities contained in the water. The whole process is very simple after once worked out, so that the lime manufacturers were much edified thereby, and may be depended upon to join the promotion of similar plants where the same conditions apply. A vote of thanks was extended to Mr. Wall, on motion of Mr. Stevens. It was brought out in



A. A. STEVENS, TYRONE, PA.

the discussion that in all probability a perfectly hydrated lime will cheapen the process of purifying water in this way.

H. E. Bachtenkircher read his paper entitled, "The Hydration Problem to Date." This paper was listened to with a great deal of interest for the reason that Mr. Bachtenkircher for several years has been making a very careful study of the practical application of hydrated lime upon the basis of using the output of a very large plant in Chicago. He talked particularly of the recent perfection of high calcium hydrate by the Kritzer process at the Marblehead Lime Company's plant at Hannibal, Mo., and referred to his former papers on this same subject a year ago, and even before that. He again referred to the tendency of high calcium lime to take on a crystalline character in hydration and explained how this was done away with in perfecting the process.

S. V. Peppel, chemical engineer, Columbus, Ohio, wanted to know how Mr. Bachtenkircher determined the crystallization feature and the reply was that the examination was not carried out fully but observation by polarized light was the method used.

Irving Warner, of the Charles Warner Company, stated that he had several experiments now in progress and others that he intended to take up in this particular line.

A. H. Lauman, when called on to speak on the subject of hydration, replied: "I have been a practical contractor with years of experience and, as you all know, have had some experience in the lime business. I have demonstrated to my own satisfaction and to many others as well, that hydrated lime is the best material to mix with gypsum to get the best possible wall-making material. My system of hydration has taught me to give lime in process of hydration plenty of room, and the best way to tell whether it is perfectly hydrated or not is to put it up in

paper bags for the market. If the bags burst it is not completely hydrated; if the bags do not burst and the lime is like a dry flour, then it is hydrated right and will not burst the bags. Good hydrated lime can be worked cheaper than lump lime on any man's job anywhere. I have demonstrated this, and the contractors who use my lime in the way that I show them, are always satisfied and want more of the same kind."

Peter Martin took a hand in the discussion on hydrate, telling some of his early experiences in this line; also Mr. Stevens and several others.

At this point President Carson read a letter from H. Dittlinger of New Braunfels, Tex., telling of his experience in getting his plant properly balanced and going on to say that this high calcium hydrate was now giving entire satisfaction, although the trade were a little backward about taking hold of it as yet.

Mr. Stevens complained of the cut prices on hydrate last summer.

Peter Martin replied in kind, saying that it was always a problem with lime operators as to when to cut, how to cut and who to cut.

George Markley, Grand Rapids, Mich., talked about the good of the association and urged the reconsideration of Mr. Hitchcock's paper with recommendation that it be immediately adopted and put into working effect. The convention then adjourned for the day.

EVENING SESSION, FEBRUARY 18.

Promptly at the opening hour the gavel of our energetic president came down with a resounding thump and the delegates caught their breath as they came to order under the Virginia system of politics.

The president introduced James W. Wardrop, executive secretary of the National Builders' Supply Association, who spoke on the subject of organization. He referred to Mr. Weiler's paper and the correspondence of that gentleman with the president. He made a ringing appeal for a broader scope for this organization, and the co-operation of every man in the lime business. Getting together and then pulling together is a force that accomplishes things in this age. He realized it was no good and useless, unless all the rank and file co-operated to make a success of the United effort. His remarks were full of metaphor and anecdote and there was meat in every line of his talk. He called the attention of the members to the fact that they were like the men at the pump, to infuse force, strength, support and contribution up to the president in the same way that the men at the pumps furnished the diver with the breath of life while he carried on his subaqueous operations.

The superintendent of the building materials testing laboratory of the United States Geological Survey, recently established at Pittsburgh, extended to the association a cordial invitation to go out to their laboratory plant and inspect its workings. He perfectly described the process of the work of testing and standardizing the various materials used in construction. It was his opinion the government would take up the lime proposition as one of the branches, sections of divisions (whichever applies) of this work. On motion of W. B. Hill, of the Ash Grove Lime and Portland Cement Company, this invitation was accepted with thanks and an hour appointed for the members.

President Carson, speaking of the suggestion, said that it was high time that the National association made application to the government, through the representatives in congress, for the testing and standardizing of lime under a division of the structural materials laboratory. He urged that each member personally, as well as those who were not here, take the matter up with their representative, and by the advice of the material experts see that the matter was placed in the proper channels to obtain prompt results.

D. S. Hunkins, of the Peerless White Lime Company, read his paper entitled "The Development of the Lime Plant." Mr. Hunkins is one of the bright youngsters who has grown up with the lime business and is right in the front rank with the progressive element. He is a civil engineer of no little attainment and carefully explained the improvements that he has developed and installed at his plant near Ste. Genevieve, Mo. He gave a perfect history of the kiln development in the St. Louis district, which was very interesting and proved him to be a thorough master of the subject. He told of his own method of controlling the heat zone in such a way as to economize with the fire brick lining.

Mr. Stevens told of how he had insulated some of his kilns by means of using an outside layer of bats.

Charles Warner said that the kiln should be capable of operating for nine months with one lining without

any extensive fixing or rebuilding of the furnaces, with ordinary care by the operator.

President Carson told of his installation of an electric register clock by means of which the regulation of the firing is recorded so that it is possible to keep a constant watch, and have the men on the firing floor cognizant of the fact that they must do their work properly or the tell-tale clock will have a record of their omissions in the morning. The same clock also registers the drawings. The result of this experiment at Mr. Carson's plant was an increase of 30 per cent in the efficiency of his kilns. He has cut out the night foreman's service, because the men very soon caught on to their jobs. It placed the manager in a position to call him up for an explanation with a record in his hand. The cost of this instrument is about \$150 installed. He said: "Our firings are now from fifteen to twenty minutes apart, and we have discontinued the use of the poker entirely. In the office we have installed a blackboard to show the record of each man working at the plant and it is astonishing and gratifying to see how regular they soon become."

A. N. Spencer, engineer of the Harbison-Walker Refractories Company, read a paper entitled "A Study of the Lime Kiln Lining Problem." Early in his paper Mr. Spencer showed that he is an expert of large experience in the matter of refractories as applied to the steel, the lime and other industries. He related the methods by which the manufacturers of refractories obtained their formulas and adapted them to the ranges of heats that are used for the various purposes. He mentioned the newest thing in refractories in this country, as the chrome brick, made of chrome clay for very intense heat and for sustaining the same in very long duration.

Departing from his paper he very frequently went into examples to illustrate his point or to show the effect of different refractory materials for various purposes. This paper was intensely interesting to every one of the lime manufacturers. On Mr. Stevens' motion it was ordered to print the paper in full, together with Mr. Spencer's remarks, in pamphlet form for the use of the members.

Mr. Stevens went on to say that he uses Portland cement and sand mortar to lay up his kiln linings. Mr. Carson said that he had used Portland cement with ground up ashes for the same purpose with very good results.

Mr. Spencer remarked that cement is tri-silicate of lime and aluminum but by repeated heatings and coolings this is changed to the di-silicate and loses much of its mortar value.

President Carson read a letter from Andrew Taylor, Jr., a practical plaster contractor of Buffalo, N. Y., on the subject of "The Standardization of Lime Products for the Use of the Practical Man." The letter said the plaster information was remarkably scarce and it was something that was wanted badly. The writer of the letter suggested that it would be very gratifying to the users of lime if every bag or other package could be labeled so as to tell exactly what the contents were, and what it was good for and best adapted for. He suggested that if the lime manufacturers would standardize their materials so that the user could know all about it, in all probability they would be able to use more of it. For in his own study and practice he had developed many features which he found were simple enough, but were still unknown to the generality of plasterers.

E. W. Lazell, Ph.D., read a paper on the standardization of hydrated lime. He had a chart drawn up to show the findings of his own experiments in this direction; he suggested that from his studies it would be possible to specify the amount of combined water, also the amount of caustic oxide present, and he did not consider it advisable to specify specific gravity, as this had no practical value. Dr. Lazell admitted his work in this line was not complete as yet, but so far as he had gone he is of the opinion that it is possible to standardize calcium hydrates in such a way as to be practically useful to the trade as well as to the manufacturer.

Charles C. Kritzer remarked that he felt very well repaid for all that he had done and for attending this convention, as he considered the matters brought out of great importance to the future of the industry.

Irving Warner came forward with the suggestion that the association could very well produce and adopt a glossary of terms for the use of lime makers and the lime trade, so as to do away with confusion in discussions and to assist in the matter of standardization. To this end he moved that a committee be appointed for this purpose to submit a report at the next meeting of the association, and it was so ordered.

On motion of Mr. Stevens, amended by Mr. Hill, the president was empowered to use whatever amount in the treasury was necessary in furthering the interests of the association according to the many resolutions passed at this convention.

Prof. A. V. Bleining, ceramic chemist of the

United States Geological Survey Testing Laboratories, recently established at Pittsburg, read a paper entitled "The Physical Properties of Lime." He brought out some of the points that would likely be taken up by a division of the Geological Survey Testing Laboratories if they could be induced to begin the examination of commercial limes and showed some of the methods that he had introduced in the examination of ceramics. He thought it altogether desirable that this association should undertake to secure an appropriation for studying and research on the subject of lime, feeling that the field was broad enough to have reasonable expectations of very profitable results to the men in the industry with benefits to the public at large to make it well worth the government's while to carry on such work.

S. V. Peppel, chemical engineer, read a paper entitled "Heat Temperatures in Lime Kilns as Related to the Fuel Problem." Mr. Peppel had made a special study of the subject for years and has had a



W. B. HILL, KANSAS CITY, MO.

great deal of practical experience in the adjustment of heats with reference to the fuel consumption. He suggested that very few lime burners were getting the full heat energy of the fuel they were using and referred to the difficulty that had been encountered in finding just what the heats of the interior of the kilns were and should be maintained at. In conclusion of his remarks Mr. Peppel stated that he had his Ferré thermometer set up in action in the boiler room in the basement, and invited all the members to go down and inspect the simple workings of this instrument. Several other instruments for observing the temperatures of the interior of kilns were mentioned by Messrs. Spencer, Irving Warner and Dr. Lazell.

Mr. Markley again moved to reconsider the matter of the vote taken on the promotion project that was introduced at the opening of the convention. He believed that the association could levy an assessment of one or two mills per barrel or its equivalent expressed in tons, if that would satisfy Mr. Stevens better, for the purpose of raising the money for such work.

Mr. Sheldon remarked that there seemed to be a little misunderstanding in this matter. The reason given for suspending the undertaking was because it seemed impossible to get more members into the association and the apparent unreasonableness of part of the lime manufacturers paying for the benefits that all would be sure to make. He said to make a fight for the lime trade, if we expect to get it, we should have to spend some of our own money. It is all right to try and get the government to take up this responsibility but that as an association we should go on record to spend some of our own money to promote the uses of lime. After some desultory discussion it was decided not to reconsider the action first taken.

Theo. E. Fleischer, of the Sheboygan Lime Works, reported the death of R. S. Thurston, assistant general manager of the Ohio and Western Lime Company, and one of the most active men in the business in the Ohio district.

By the president's motion a rising tribute of respect was paid to the departed member.

Mr. Stevens moved a vote of thanks to President

Carson for his efficient services in the office of president, and to each of the writers of papers presented to this convention. This motion was adopted by acclamation, and the convention adjourned *sine die*.

NOTES OF THE MEETING.

Charles H. Claiborne, of Baltimore, Md., the charming fellow who sells Mt. Savage fire brick to lime men throughout the country, was on hand with cigars galore; in fact, he planted a box each morning on the president's desk, and most of the delegates were smoking on Charlie all the time.

Charlie Kritzer was full of little stories on the subject of successful hydrating and was naturally elated over the success of this branch of the business, admitted in all of the debates of the convention.

A new member of the association was the Merion Lime and Stone Company, of Norristown, Pa., through H. A. Gawthorp, manager.

Colonel Raupp, military attache to His Excellency, the Governor of Missouri, was on hand and helped to make pleasantness in the lobby wherever he was to be found. The doughty Colonel was called into active service not very long ago and won commendation from both the authorities and the public for the prompt manner in which he put down a riot at Springfield. Incidentally, he says that his Red Rooster brand is still "crowing" all over the West.

W. H. Barton, engineer of the lime plants of the Ash Grove Lime and Portland Cement Company, attended his first convention on this occasion and said he felt well repaid for coming, as many points were brought out and suggestions made that are well worthy of investigating in connection with his extensive operations in Missouri.

A. T. Howe, president of the Marblehead Lime Company, Chicago, expressed himself as highly gratified with the work of the association as in hand.

"Uncle" Peter Martin, who is always ready on the floor in any kind of a discussion on the subject of lime and always in the front rank of progress, had to pull out before the close and thereby missed some of the things that he would have liked very much to have participated in.

Colonel Cobb, our distinguished treasurer, is always ready to make a fight for association members. It is a part of his usual "stunt" as the Lord Treasurer of the organization.

W. B. Hill and Father Lauer were much impressed with the work being done at the government laboratories for testing materials.

"Pap" Lauman was at home in Pittsburg and did his best to make everybody feel at home. In fact, Pap is at home 'most everywhere because he has a warm heart and a cordiality that is always appreciated.

Our scientific bunch is growing. Dr. Lazell, Harry Bachtenkircher, Vernie Peppel, A. V. Bleining, Irving Warner, Bud Hunkins and A. M. Spencer make a faculty well worth looking up to.

President Carson, as usual, was the busiest man on the job. In fact, he is the life of the association, with his indomitable courage and untiring energy. He is in the habit of pushing the work to the satisfaction of the executive committee as well as all the members who are willing to work. He has a new partner in his business down in Virginia, whom rumor tells us has been christened McClennahan Palmer Carson, who was duly registered on the roll of membership.

Mr. and Mrs. A. M. Glasgow, bride and groom, from Knoxville, Tenn., were a part of our party in Pittsburg. The groom was always popular before, but his light is now eclipsed by the charming lady he has won.

Charles Warner is not only an association worker but is constantly applying in his operations the theoretical suggestions that come up in the association. Now, maybe, this is the best route to get all that is going out of the assembled wisdom.

Lawrence Hitchcock could only stay one day and thereby missed the best practical part of the meeting.

Father Stevens was on the job every minute in his own aggressive and energetic way, working for the association.

Theo. Fleischer said this was the best meeting he ever had the pleasure of attending.

St. Louis was well represented; besides Colonel Cobb there was Phil. Daurenheim, F. P. Hunkins and D. S. Hunkins from Ste. Genevieve.

Walter Sheldon is certainly working out the agricultural problem with victory in his eye. We expect very soon to hear reports from that Boston meeting, which he referred to in his paper.

James W. Wardrop, the brilliant secretary of the National Builders' Supply Association, won golden opinions among the lime manufacturers.

George Keyes, of Louisville, and Madison White,

side, of the Chicago office, representing the Aetna Powder Company, were entertaining their many friends.

F. C. Spencer, of Toledo, was the representative of the Urschel-Bates Bag Valve Company and he was especially interested in talking to the hydrating division.

Arkansas Firm Changes Name.

EAST SYLAMORE, Feb. 18.—The Case-Young Lime Company, of this place, has been succeeded by the George R. Case & Sons Lime Company. The plant is located about a mile from town, and they have one kiln with a capacity of 120 barrels of lime. The quarry of the plant is situated on a ledge 200 feet above the kiln, so that the cars loaded with the lime rock are dropped by gravity to the kiln. The company manufactures the Owl brand of lime, and they contemplate installing additional kilns as well as putting in another compressor to operate the air at the quarry.

Cures Pulmonary Diseases.

A daily paper prints the following: Dr. S. C. Boston, of West Grove, Pa., has reported to *American Medicine* that he had discovered in the case of three different patients the wonderful effects of lime dust for tuberculosis. One was the case of a negro who obtained employment hauling lime at Wilmington, Del.

He worked all day in a lime dust atmosphere, and at the expiration of three weeks his hacking cough had disappeared and the violent hemorrhages of the lungs, to which he had been subject, ceased.

The change in the patient's condition was brought to the attention of Dr. Boston, and after satisfying himself of the truth of the story, he undertook the treatment of a white laborer. He caused a quantity of unslacked lime to be pounded to a powder and placed in a burlap bag, which was dropped on the floor repeatedly so that an impalpable dust would arise. Two or three times a week the man put his head into the bag, and breathed the fine particles into his lungs. Although his father, three brothers and one sister died of pulmonary tuberculosis, he showed immediate improvement. At the end of a month he had gained ten pounds in weight and was able to go to work.

The second negro was a laborer in a limestone quarry. He was greatly emaciated and his work exhausted him. Dr. Boston advised that he get transferred to the company's mill, where the lime rock was crushed. He did so, and while at work his eyes, nostrils, ears and mouth were filled with the fine dust. His condition improved and he gained in strength and weight.

Making Addition to Plant.

ADAMS, MASS., Jan. 26.—The New England Lime Company has begun work upon a large addition to its plant. The new building is to be a storehouse and will measure 80x16 feet. It is erected on the north side of the plant. The plant has been shut down for a few days for repairs, which, it is expected, will be done by the middle of the week, when it is expected the plant will resume.

Elects Officers.

The Michigan Lime Company, Grand Rapids, Mich., held its annual meeting Feb. 21 in the directors' room of the People's Savings Bank. The customary semi-annual dividend of 3 per cent was declared upon the preferred stock and an annual dividend of 3 per cent upon the common stock. These directors were elected: E. D. Conger, William Alden Smith, C. B. Kelsey, and Morgan Curtis and Chalmers Curtis of Petoskey. The latter succeeds Edward M. Deane, who sold his stock and retired from the company in December. The officers are: William Alden Smith, president; E. D. Conger, vice-president; C. B. Kelsey, treasurer, and Morgan Smith, secretary. Mr. Deane had been secretary since the organization of the company in 1901.

Close Prosperous Year.

The Decarbonated Lime and Stone Company, Waynesboro, Pa., directors at their regular meeting Feb. 12, in the office of West & West, declared a dividend of 6 per cent out of the earnings of the past year. The dividends, which amounts to \$720, will be paid April 1.

The past year has been the best in the history of the company for some time. It is yet too early to forecast the outlook for the present year but it is the hope of all the directors that it will at least equal that of 1908.

Improvements at the Lime Works.

The Bancroft Lime Company, of Pocatello, Idaho, of which E. J. Dolbeer is manager, recently signed up a contract with Gustav Voelcker to build for them a new plant of his invention. It will consist of a double kiln, each having a height of 45 feet, which will be steel jacketed. The required draft will be produced artificially. Mr. Voelcker claims that a natural draft in this high altitude is too fluctuating and consequently of insufficient power. The necessary air for fuel consumption is produced by means of a fan, discharging into the furnace always in a superheated state. This alone means a great saving of fuel. It will also enable the firemen to keep the furnace under an absolutely even temperature, and give entire control of the process.

The action in the kiln is continuous. The rock when brought from the quarry will dump automatically over an inclined screen, freeing it thereby from all fine earth, etc. If we are rightly informed, Mr. Voelcker claims that with his apparatus 20 minutes is sufficient time to burn the highest grade of calcium rock, and this is accomplished with no other fuel than coal slack.

The unloading and transporting of the coal will also be done automatically, a chain elevator laying on an angle of 45 degrees doing the work. The railway car of coal will be spotted over the elevator hop-



C. W. S. COBB, ST. LOUIS, MO.

per at the bottom, chutes in the car will be drawn open and without giving the matter any further attention the elevator will do the work, unload the car and distribute the coal where needed.

The entire process will be protected by a patent. Mr. Voelcker is now making his headquarters at the plant of the Pocatello Pressed Brick Company.

Purchase Lime and Cement Deposits.

L. W. Coffee, of the firm of J. W. Wright & Co., San Francisco, Cal., recently purchased a large tract of land valuable for its lime and cement deposits at Santa Cruz. This land adjoins the large holdings of Rudolph Spreckels and its deposits will be handled by a corporation financed for the purpose of exporting lime and cement.

The Cause of Delay.

The long-delayed campaign of promotion for the lime industry is recognized by every operator to be the most vitally important question at the present time. The reason for this delay is the large number of lime manufacturers who are unwilling to join the promotion movement and assist with their effort and their cash. It is plain that such a general scheme of activity as has been suggested at the meetings of the National Lime Manufacturers' Association would benefit those who do not help carry the burden quite as much, as it would add to the profits of those who pay the piper. Naturally they are unwilling to buy benefits for competitors who will neither help nor contribute. Probably many would subscribe to a general promotion fund if they could understand where the money came back right off with a profit,

but as they persistently keep outside of the procession of progress it is impossible to "show" them. If all the men who own lime properties and equipment could be induced to take a hand in the affairs of the National association this and many other important and profitable matters could be worked out. The association has made a profit for every man who ever attended a meeting.

Almshouse Contract.

James R. Trout, of Shillington, Pa., was recently awarded the contract for furnishing 2,500 bushels of lime to the almshouse, to be used as fertilizer.

Plants Start Up Full Time.

W. O. Taylor, general manager of the Casparis Stone Company, Columbus, O., has returned from a trip of inspection to the Illinois and Indiana plants of the company and says that all of them are being operated to full capacity. Beginning delivery February 10, the company starts on the largest contract it has ever had, the furnishing of immense amounts of limestone to the Chicago mills of the United States Steel Company.

These mills have started up in full operation and have been turning out more tonnage than at any previous time in their history. The Chicago rail mills will be in full operation and the local company will furnish all the lime for the big plant. It also is furnishing large amounts to the new mills and furnaces at Gary. Mr. Taylor says that the western mills of the steel corporation will be running well above normal within a short time and then he does not believe it will be long until the eastern plants as well are back in full operation, when the Columbus quarries of the company will be rushed with shipments of limestone.

OBITUARY.

R. S. Thurstin, assistant general manager of the Ohio and Western Lime Company, died on Friday, January 22, at Bowling Green, O.

Mr. Thurstin was 56 years old and leaves a wife, two sons, Robert and Stanley, Jr., two daughters, the Misses Dora and Ada, and two brothers, U. S. Thurstin, of Toledo, and Earl Thurstin, of Bowling Green. He was president and general manager of the Ohio Lime Company, and when the company merged with the Western five years ago, became assistant general manager of the merged concerns.

The Northwestern Lime Stone and Slag Company has been incorporated at Mayville, Wis., with a capital stock of \$5,000 by H. J. Schlesinger, Armin A. Schlesinger and Edgar N. Dickinson.

The Evansdale Lime and Clay Products Company has been incorporated at Canton, O., with a capital stock of \$20,000.

The Dittlinger Lime Company, New Braunfels, Tex., reports that they are looking for a great improvement in the business in the immediate future. Their "Snowflake" hydrate is winning the markets.

The Phenix Stone and Lime Company, Kansas City, Mo., say that the outlook for the present year is very satisfactory.

Marblehead Lime Company, Kansas City, Mo., say that the business outlook for the current year is very promising. "Crown" hydrate is making new friends every day.

Milwaukee Falls Lime Company, Milwaukee, Wis., say "the outlook for the year 1909 is very good."

Standard Lime and Stone Company, of which Mr. W. I. Hamilton is president, with sales office located at Fond du Lac, Wis., contemplate substituting a gasoline hoist with which to elevate stone to the top of their kilns; they also state that the outlook for the year 1909 is exceptionally good.

Thomasville Stone and Lime Company, Thomasville, Pa., expect a good business in the year 1909.

W. B. Hill, president of the Ash Grove Lime and Portland Cement Company of Kansas City, Mo., says that the business outlook at this time is very fair.

Charles W. Goetz Lime and Cement Company, St. Louis, Mo., report that the outlook for business at the present time is very good.

M. J. Grove Lime Company, Stephens City, Va., say that the outlook for business at the present is unfavorable.

New Jersey Lime Company, McAfee, N. J., say that they expect to add four kilns during the year and that the business outlook was never better at this season of the year.

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"OUR TEST IS QUITE SEVERE. CONGRATULATE YOU ON THE EXCELLENT SHOWING MADE."

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Daily Output 17,000 Barrels, increasing to 23,000 Barrels. Plants at Chicago & Pittsburg

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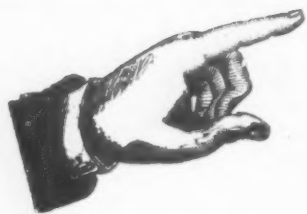
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A dealer handling Whitehall Portland Cement always knows the price we charge for our product at the mill, through our monthly quotations. He adds a legitimate profit and the consumer is well satisfied with the results secured by the use of an absolutely uniform product.

During the year of 1909, the Whitehall Portland Cement Company will continue its well defined policy of marketing its product through the dealer.

The Whitehall Portland Cement Company

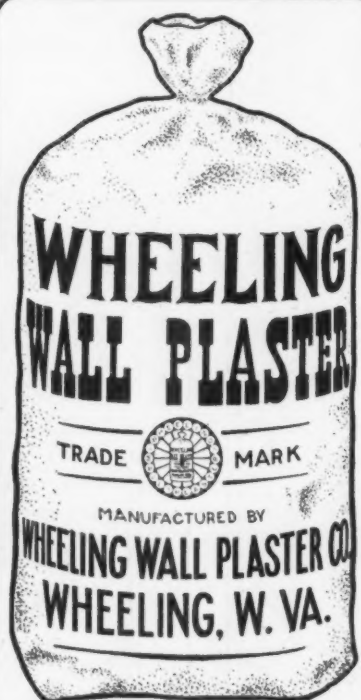
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CHICAGO'S SECOND ANNUAL CEMENT SHOW.

Visited by Thousands, Proves Highly Profitable to the Exhibitors, an Educational Factor to the Industry and a Great Success From Every Standpoint.

The Second Annual Cement Show held under the auspices of the Cement Products Exhibition Company has just closed the most successful exhibition of cement working machinery, appliances and tools, together with reinforcement materials and waterproofing and coloring products, that the world has ever seen. The attendance was very large at each and every day of the show, increasing successively from day to day until the close—the last day having the largest attendance of all. It has been estimated that no less than 200,000 different people visited the show during its progress, and a very large number of directly interested people were in attendance each day.

The educational influence of such an exhibition can hardly be calculated, for the list of people known to ROCK PRODUCTS as attending the show embraces some from every state in the Union, although the great bulk of the attendance was naturally drawn from the states of the great Mississippi basin, and the popular attendance of citizens of Chicago was very large by reason of the splendidly conducted publicity campaign.

This show differs from all others at first glance, because an elaborate scheme of uniform decoration was carried out in the entire interior of the Coliseum, including the Annex. Every space was filled with an exhibit, many of them built of elaborately decorated



EDWARD M. HAGAR, PRESIDENT, CEMENT PRODUCTS' EXHIBITION COMPANY.

for building a home from a typical cubic yard of material. It is applicable not only to the construction of residence properties but to factories, sky scrapers, hotels and every other building where walls and partitions and reinforced floors and roofs are used. In fact, this great invention makes the concrete industry complete within itself. By using a reinforced concrete frame, this tile can be used for all the curtain walls, partitions and floor spans, so that it is no longer necessary to use any other material in the structural parts of a building except concrete. This material is also the highest type of all fireproofing products, for it is a well known fact that concrete is the best nonconductor of heat that is known to modern science.

Several machines designed for the use of cement manufacturers were exhibited, including machines for fine grinding, for weighing and proportioning raw materials, and measuring the finished cement by weight.

Several of the leading bag companies had attractive exhibits of their wares, showing practically all of the cement brands in attractive colors printed upon paper bags.



B. F. AFFLICK, CHAIRMAN EXECUTIVE COMMITTEE, CEMENT PRODUCTS' EXHIBITION COMPANY.

concrete work, several of which, giving an idea of all the rest, are shown in the accompanying illustrations.

The booths of some of the cement manufacturing companies were very tasty and expensive, showing the use of cement in the expression of the highest type of architectural art. Cement machinery of every description was shown, including the familiar block machines, porch columns molds and molds for ornamental accessories, such as window caps, lintels, corner quoins, friezes and entablatures. There were concrete mixers of every practical type in great variety. Several specimens of collapsible sewer tunnel molds were on exhibition. Wheelbarrows and conveying devices for handling concrete materials in large quantities, including the latest thing, which is a two-wheeled truck with an attachable bridle so that it can be conveniently handled by means of a derrick. Several models of machines for molding concrete drain tile were demonstrated in practical operation, and this new and interesting feature of the industry attracted no little attention. One exhibit showed a drain tile machine directly connected with a continuous mixer of the horizontal screw type, which showed a very effective combination. Structural tile and the machines upon which concrete structural tile is made were on exhibition. This is one of the newest and most important inventions of the American concrete industry, because it has the far-reaching effect of expressing the largest amount of material suitable

Several firms that manufacture hydrated lime were on hand to show the advantages of their material as an adjunct of concrete in making the density and waterproofing qualities more proficient. All the leading brands of waterproofing compounds, waterproofing paints of various compositions, color compounds and paints were shown and demonstrated to the satisfaction of purchasers.

The leading cement testing laboratories conducted working exhibits to show the manner in which cement is tested in process of manufacture, as well as the products that are produced with cement in conjunction with sand and other aggregates. A number of rock crushers were shown by models all in full sized working exhibits.

There were numerous exhibits of steel reinforcement for the use of the concrete engineer. These consisted of combinations of rods and wire fabric, of twisted bars and deformed bars of various kinds, spiral bars, and wire cloth; in fact, the reinforcement feature was well represented with the new and best in this line that the industry affords.

One thing was noticeable throughout the entire exhibition, and that was the splendid organization of the Cement Products Exhibition Company and their intelligence in the handling of such a large proposi-



J. U. C. McDANIELS, SECRETARY, CEMENT PRODUCTS' ASSOCIATION.

tion. This was remarked by a large number of the exhibitors who appreciated the order and precision with which all the details of the great undertaking were carried on without the slightest friction or delay from the start to the finish. Although the Coliseum was only turned over to the officers of the exhibition company on Monday, thus giving barely three days for the physical preparations for the show, yet the doors were promptly thrown open at 8 o'clock with every exhibit practically in place and every exhibitor ready for business.

Although there was no formal ceremony to mark the opening, Thos. A. Edison sent in the following telegram to President Edward M. Hagar, of the exhibition company: "Greetings. Wish the Chicago Cement Show a complete success."

The Seventh Regiment Band was engaged to furnish music during the show, opening with a march, and after that the crowd commenced pouring in until every aisle and open space in the great Coliseum was filled with visitors. This was repeated every afternoon and evening with the successful results already related.

The officers of the Cement Products Exhibition Company, to whom the organization and fulfillment of this great occasion is entirely due, are: Edward M. Hagar, president; Norman D. Fraser, vice-presi-



J. P. BECK, SUPERINTENDENT, CHICAGO CEMENT SHOW.

dent; J. U. C. McDaniel, secretary-treasurer.

Executive Committee.—B. F. Affleck, chairman; William Dickinson, J. U. C. McDaniel.

Directors.—Edward M. Hagar, Universal Portland Cement Company; Norman D. Fraser, Chicago Portland Cement Company; A. St. John Newberry, Sandusky Portland Cement Company; William Dickinson, Marquette Cement Manufacturing Company; D. McCool, Newaygo Portland Cement Company; E. W. Shirk, United States Cement Company; B. F. Affleck, Universal Portland Cement Company; J. U. C. McDaniel, Chicago Portland Cement Company; C. A. Whyland, Elk Cement and Lime Company.

In the midst of the overhead decorations was an immense electric light sign bearing in letters of fire "Concrete is King." This challenged the eye immediately that a visitor came in the entrance door, and there was hardly any place in the great Coliseum where it could not be observed, and this was the motto and the leaven of the gigantic occasion.

All railroads running into the city of Chicago gave reduced fares for visitors to the exhibition. The exhibitors almost to a man have expressed their satisfaction with the results of the time and expense devoted to this show, some of them declaring that their actual sales and future business developed amounts to almost a good year's business.



GEORGE C. MARSH, CHICAGO, THE MIXER AND CRUSHER MAN.

Sunday, February 21, came right in the midst of the show as a day of rest and diversion for the weary exhibitors and the out-of-town visitors. The Cement Products Exhibition Company were the hosts of an entertainment at the American Music Hall on Sunday afternoon to every exhibitor at the show. There was a vaudeville performance which was greatly enjoyed. The bill was one of exceptional merit, well spiced with personal thrusts at prominent members of the American cement industry.

The theater itself is one of the most unique houses in the entire country, and is one of the show places of Chicago. The ceiling is made to represent the sky at night with stars twinkling and a big moon appearing out of one corner. The boxes are arranged along the sides of the house like verandas in front of a house, the effect being heightened by the presence of windows and doors with an awning over the balcony. At the sides of the stage giant trees are so arranged that they reach up to the ceiling where their branches spread out over the ceiling. Many expressions of delight were heard and altogether the afternoon was a most enjoyable one.

The exhibitors and their friends were the guests of the Sunday Evening Club last night at Orchestra Hall. Addresses were made by Richard C. Hall and Prof. Edgar P. Hill. An organ recital by Clarence Dickinson was a most enjoyable feature. Mrs. Marie

Sidenius Zendt and Marion Green, with a chorus of seventy-five voices, rendered a choice program. A large number of seats were reserved for the cement show exhibitors, who were out in full force.

Monday, February 22, was a great national holiday, commemorating the birthday of the "Father of the Country," and a great holiday crowd attended the show. It was Home Builders' Day, and the prospective home builders of Chicago turned out in great numbers. The musical program of the day was filled with national airs which the crowd frequently cheered, and in every way Monday the twenty-second of February was a gala occasion at the Cement Show.

Among the throngs that visited the exhibition were numerous officials from other cities, heavy contractors who have the responsibility of the great public improvements; eminent engineers and architects, dealers in building supplies, manufacturers of cement products, real estate operators, investors in city improvements and, in short, every one that has an interest in the great cement industry of America.

A spirit of good fellowship pervaded the whole occasion and many a practical joke was pulled off and witticisms were repeated without number.

J. P. Beck, who was active in the management of the multitude of details in this big undertaking, was congratulated on all sides for his patience, persistence and good temper. Walter Birmingham was the official press agent of the show, and his work was nothing less than magnificent, in securing the public attention to the great doings in the Coliseum.

The future of the Cement Products Exhibition Company is very bright. The unparalleled success of their show in 1909 certainly had a great effect with a promise of a greater success for its future business, and under such magnificent management and organization this is only to be expected and so recorded. It has already been hinted by President Edward M. Hagar where improvements in the organization of the next show will be inaugurated. This is certainly a model for all future Cement Shows, as the greatest accomplishment in this special line that has ever been seen. Space will not permit the publishing of a full list of the visitors, even if that were possible, but a brief description of each of the exhibits follows in detail.

EXHIBITS AND EXHIBITORS.

The Atlas Portland Cement Company had a very attractive booth and kept open house all the time. The Newell posts which surrounded the exhibit were cast of concrete and were designed by Architect Blacknall, of Boston, Mass. Emerson & Morris, of Boston, made the exhibit. The figure of Atlas on a pedestal made of concrete attracted considerable attention and admiration. The statue was a perfect replica of Atlas with the world on his shoulders. The large staff of the Atlas men were on hand consisting of P. Austin Tomes, E. D. Boyer, Thomas M. Magiff, John G. Evans, Frank C. Bailey and H. V. R. Palmer and J. D. Heck. The memorandum and diary books were a little late in arriving but when they did arrive they went like hot cakes and everybody was carrying an Atlas memorandum book.

The Koehring Machine Company, of Milwaukee, Wis., had a batch mixer in operation and in charge of Philip Koehring. The machine was equipped with an automatic loading device. The Koehring mixer can be adapted to any kind of power. The mixer can be operated by one man, the levers operating the loading and discharging device being on one side of the machine are easily manipulated. This machine is designed for heavy use and can be used on street paving work as well as for smaller concrete requirements.

The Concrete Stone and Sand Company, of Youngstown, O., had an exhibit in charge of A. A. Pauly, assisted by M. Fleming. They exhibited a number of their famous concrete structural tile and several of the most useful shapes for house building. This is the most scientific practical path for the safe home of concrete for the masses of the people, for with this material beautiful concrete homes that cannot be burned can be built as cheaply as with lumber. They also had one of the machines which makes the tile, on exhibition. Mr. Pauly, the inventor, was kept so busy explaining, to the interested visitors, the process of manufacturing as well as the results of buildings that have been made of this tile. Structural tile made of concrete is the best fire resisting material the world has ever seen. This new material is destined to be used in the building of homes for the American people now and for coming generations. Not only is concrete structural tile useful for the building of the walls but also for the floors, the partitions and the roofs, so that no part of the future home need be vulnerable to fire or vermin, under any condition.

The Somers Brothers were both in hand taking charge of the exhibition of the pressure block machine which the Somers Brothers Company manufacture.

The Sanford Concrete Machinery Company, Toledo, O., had on exhibition their Sanford pressure machine. Mr. Joseph I. Cox was assisted by E. J. Long.

A new idea in blackboards was shown by W. T. King & Sons, Chicago. The blackboard is one solid concrete mass. They had personal charge of their booth.

As usual, W. J. Roseberry, Jr., operated the chain belt concrete mixer of the Chain Belt Company, Milwaukee, Wis., which that company has recently put on the market.

The Miles Manufacturing Company, Jackson, Mich., sent D. P. Vining to take charge of their exhibit and he was assisted by A. J. Weathermax, W. J. Corket and others. Their new idea in concrete mixers was a feature of their exhibit.

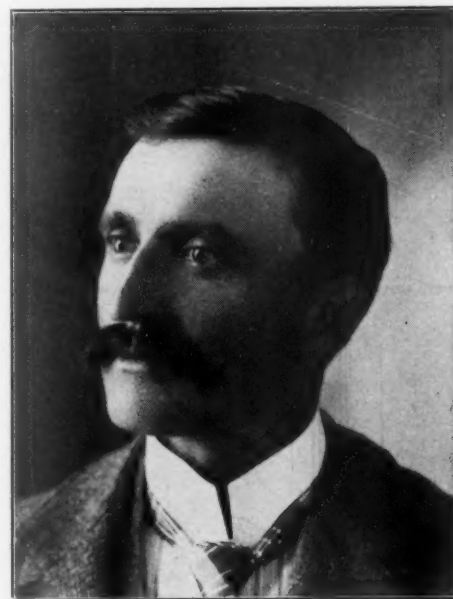
The Barton System of reinforced concrete construction, Chicago, known as the spider web, was shown to the best advantage by Francis Barton and E. D. Jenkins.

Another type of concrete reinforcement was the one shown by M. E. Murray, representing the General Fireproofing Company, Chicago.

The Decorators' Supply Company, Chicago, E. V. Spindler, superintendent, displayed to the public specimens of their ornamental cement work.

The "Kent" block and transfer cars and the "Kent" precision measuring mixers made up the exhibit of the Kent Machine Company, Kent, Ohio. Those in charge were F. A. Kerschel, A. L. Post and F. H. Merrill.

The Dietrichs Giant clamp, designed for heavy con-



A. A. PAULY, YOUNGSTOWN, O., INVENTOR OF CONCRETE STRUCTURAL TILE, "THE SAFE HOME FOR THE MILLIONS."

struction, was the main attraction in the booth occupied by the Dietrichs Clamp Company, Little Ferry, N. J. Charles Dietrich was in charge.

George W. Jackson Company, Chicago, had as their exhibit illustrations from their steel appliance department, which included steel sheeting, steel ribs and lagging.

Ironite, a waterproof for cement brick tile, concrete, etc., was shown to be perfect, practical and permanent by the Ironite Company, of Chicago.

The Jackson System of reinforced concrete was shown to the best advantage by F. M. Jackson, of the F. M. Jackson Company, Akron, N. Y.

The Sterling Wheelbarrow Company, Milwaukee, Wis., had in their exhibit their sterling concrete cart made in every size and shape.

The Grand Concrete Mixer was shown by the Hall-Holmes Manufacturing Company, Jackson, Mich.

The exhibit of the Cement Machinery Supply Company, Denver, Colo., included block machines, mixers, brick machines, tile molds, etc. The booth was in charge of U. W. Wigton, George K. Coulter and J. A. Wigton.

J. B. Foote Foundry Company, Fredericktown, O., was represented by J. B. Foote.

The Chamberlain Machine Company, of Waterloo, Iowa, exhibited their concrete shingle machine. Messrs. Chamberlain and Jones had charge and made shingles.

The patent hollow beams for reinforced concrete were shown by the Climax company, Chicago, Ill.

The D. & A. Post Hole Company, Three Rivers, Mich., placed on view specimens of their concrete post molds.

The Twentieth Century Tile Roofing Company, Chicago, Ill., had an exhibit of their tile roofing. The William B. Hough Company, Chicago, had on exhibition a Ransome batch concrete mixer.

The Burrell X-L-All batch mixer was shown in operation by the Burrell Manufacturing Company, Bradley, Ill.

The Chicago Builders' Specialty Company, Chicago, had their usual variety of concrete spades, mixers and reinforcing machines on exhibition.

The Rutherford Cement Construction Company, Rutherford, N. J., makers of the Rutherford hollow cement block and brick machine, had specimens of their machines at the show. Mr. Rutherford, president of the concern, was in charge.

The Ashland Steel Range & Manufacturing Company, Ashland, Ohio, had one of their United States cement building block machines on exhibition.

The Lehigh Portland Cement Company was represented by Frederick E. Paulson, B. L. Sweet, Louis Moss, Ed. Phelan, H. M. Scott, E. E. Fillion, William H. Weitknecht and Dan Walford. This was one of the most popular booths during the show. A great many souvenirs were given out among which were a handsome leather-bound memorandum book, match holder, a miniature barrel of cement, watch fobs, pencils, all bearing the trademark of the company. A barrel of rosy red apples was opened each day.

The Kramer Automatic Tamper Company, Delphi, Ind., one of the largest manufacturers of automatic concrete tampers in the world, had one of their celebrated tampers on exhibition. G. W. Kramer, G. Janssen and W. H. Janssen were in charge.

Messrs. Raber and Lang had charge of the concrete tile machine manufactured by Raber & Lang, Kendallville, Ind.

The National Waterproof Company, Chicago, Ill., specialized in exhibiting their waterproof Te-pe-Co, which is a mineral liquid solution.

A miniature tamper known as the Magic was shown by George A. Anderson, Fargo, N. D.

J. R. Powers, Chicago agent for the Troy Wagon Works Company, Troy, N. Y., exhibited for the company the Troy bottom dump wagon.

The Municipal Engineering and Contracting Company, of Chicago, had as their exhibit such a concrete mixer as they had previously shipped to Panama. The exhibit was in charge of W. P. Cosgrove.

G. H. Olmstead, Chicago, distributors for the Sidney Steel Scraper Company, Sidney, Ohio, had as an exhibit the Sidney wheelbarrows.

The Little Giant mixer manufactured by the Ballou Manufacturing Company, Belding, Mich., was shown in actual operation.

The Wabash Portland Cement Company, Detroit, Mich., had a very attractive exhibit, which included their various grades of cement as well as pictures of their different work.

The Wood Electric & Manufacturing Company, South Bend, Ind., had in their booth specimens of their "Wemco" electrical apparatus.

The Nugent Clutch, made by the Cincinnati Iron and Steel Company, Cincinnati, was shown to the best advantage.

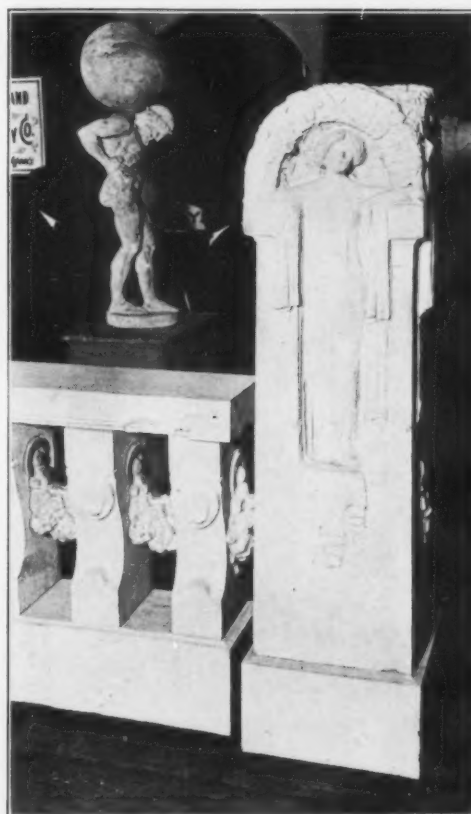
The exhibit of the Anchor Concrete Stone Company, Rock Rapids, Ia., consisted of making sand blocks on the Anchor machine. The exhibit was in charge of Charles W. Bradley and his assistants. The method is by molding two separate and distinct blocks, tying them firmly together in process of construction with four one-quarter-inch galvanized iron rods, eight inches long and turned one inch at each end, leaving a continuous hollow air space from the basement to the roof. By this method the air is allowed to circulate through the walls and absolutely insures a perfectly dry inner wall at all times. No furring strips or lathing need be used, as a house constructed of Anchor blocks can be plastered on the inner wall. The company has demonstrated their machines at all the concrete and cement users' conventions and they have attracted considerable attention at every place they have been shown.

F. B. Burness, of Kansas City, exhibited one of his patented concrete trucks, with the bridge for handling by means of derricks or otherwise. Mr. Burness was in charge of the booth.

Smalley & Trulin, of Panama, Ia., showed a new, improved, three air chamber, two-piece block machine, which makes 288 sizes and styles of blocks in one machine.

W. H. Stewart and his son were in charge of the exhibit of the Cement Tile Machinery Company, of Waterloo, Ia. One of the Schenck drain tile machines was displayed in actual operation.

W. E. Dunn & Co., of Chicago, exhibited a complete line of concrete block machinery, brick ma-



ART DETAILS OF THE ATLAS EXHIBIT, CHICAGO CEMENT SHOW.

chines, pipe molds, sill molds, and was in charge of W. E. Dunn, F. W. Dunn and L. King.

The Clover Leaf Machine Company, of South Bend, Ind., exhibited one of their Clover Leaf mixers. The booth was in charge of W. O. Williams and Mr. Mills.

E. T. Morris, of Elburn, Ill., exhibited his collapsible circles for sewer and culvert forms.

The Waterloo Cement Machinery Corporation, Waterloo, Ia., showed one of their Polygon mixers, in charge of M. R. Evans, manager of the company.

The Advance Concrete Mixer Company exhibited one of their mixers, in charge of H. F. Abbott, Jackson Mich.

The Cropp Concrete Machinery Company, of Chicago, exhibited one of their mixers.

C. F. Scott, representing the Illinois Gravel Co., Princeton, Ill., had charge of the exhibit of his company. He showed the Illinois concrete mixer,



H. S. DOYLE, C. E. CHICAGO AMERICAN STEEL AND WIRE COMPANY.

and assisted by L. H. Scott, demonstrated the vital points of their new machine.

The Lockbar Concrete Steel Company, of Chicago, Ill., was represented at the show by W. W. Ramsey. Their girder frames, columns and twisted steel for reinforced concrete were shown to the best advantage.

The booth of the Besser Manufacturing Company, of Alpena, Mich., was in charge of H. Besser, who, with W. R. McPhee and Ben Cole (who turned the crank), demonstrated the workings of the Besser mixer.

The Brown Hoisting Machinery Company, Cleveland, Ohio, manufacturers of the dovetail corrugated reinforcement for roofs, etc., was represented by A. R. Leeds, who, with G. T. Sinks, explained the Ferrooinclave corrugated sheet.

Jacob B. Blaw was in charge of the booth of the Blaw Collapsible Steel Centering Company, Pittsburgh, Pa., makers of all kinds of steel centerings for sewers, subways, etc.

W. E. Snyder and J. D. Stacey, F. M. Mider and J. E. McIntire gave a practical illustration of the fence posts and brick machines which the LaGrange Specialty Company, LaGrange, Ill., manufacture.

S. A. Gibson had charge of the Rockford Sand & Gravel Company's booth, Rockford, Ill. The different grades of sand and gravel were shown to the public.

The Success concrete tile mold was operated and sold by the two Groh brothers, Kendallville, Ind., who comprise this firm.

The Alling Construction Company, Chicago, showed the Vaughan system of reinforced concrete construction, in charge of Mr. McGrath.

The American Asphaltum & Rubber Company showed their latest methods for waterproofing, municipal water basins and other applications of the asphaltum waterproofing.

The American Steel & Wire Company had on exhibit specimens of their triangle mesh concrete reinforcement, with various views of their work. H. S. Doyle was in charge.

The Hercules concrete mixer, manufactured by the Century Cement Machine Company, Rochester, N. Y., was on exhibition, in charge of A. T. Bradley. This is a continuous drum mixer and is designed to not only thoroughly mix but properly proportion the different aggregates as well.

The St. Paul Cement Machinery Company, St. Paul, Minn., had on exhibition their Ferguson patent cement drain tile machine, in charge of F. J. Pfiffner.

The exhibition of the Chicago Concrete Machinery Company was in charge of Mr. Lawson, Mr. Cogan and Mr. West, who operated one of their concrete mixers, attached to which was a Bates charging elevator, and all operated with the same power.

J. M. Thinnies & Co., Chicago, manufacturers of the Thinnies cement garbage box, exhibited some of their products.

The Aquabar Company, Philadelphia, Pa., exhibited their Aquabar waterproofing. Their booth was in charge of W. L. Reid.

The Hudson Manufacturing Company, Hudson, Ind., was represented by Messrs. Scholler and Drummond. They demonstrated their concrete shingle machine and concrete tile machine. They have had a large call for Hudson concrete tile and sewer pipe machines, as the development of this industry has been very large, and they are securing their share of the business.

A working model of a cement roofing tile machine was shown by Brock Brothers, St. Louis. The two brothers of the concern were in charge.

The Lansing Wheelbarrow Company, Chicago, Ill., was represented by H. H. Ames, who displayed a full line of wheelbarrows.

The unit system of reinforcing, manufactured by the American System of Reinforcing, Chicago, Ill., was exhibited by Mr. Gurney, Arthur Clement and Fred Stone.

One of the educational features of the show was the exhibit of the Robert W. Hunt Company, Chicago. J. E. Moore and H. H. Morgan performed actual physical tests on the company's tensile and crushing testing machines.

The booth of the Illinois Improvement and Ballast Company was in charge of W. E. Schmidt and James A. Parsons. They had the only exhibit of aggregate materials at the show. It consisted of slag.

The General Fireproofing Company had in their booths one of their fireproof columns, as well as all types of metal lath for concrete reinforcements. The exhibit was in charge of M. E. Murray, S. A. Smith, W. M. Mueller and E. H. Hunting.

The Wadsworth Howland exhibit was in charge of E. A. Foster, J. E. Watson, R. E. Joyce, S. Carlton, G. M. Watson and W. A. Fox. They demonstrated the use of Bay State Brick and Cement coating, waterproof and fireproof finish, made from



TYPICAL EXHIBITS AT THE GREAT CHICAGO CEMENT SHOW.

Portland cement for use on concrete. This material has the signature of the National Board of Fire Underwriters.

Printed No. 1 rope cement paper sacks, made by the Tarentum Paper Mills of Chicago, were explained by H. C. Flonacher, A. T. Armstrong, C. H. Bruns and H. H. Heimerdinger.

The United States Gypsum Company has a most beautiful exhibit of plaster products, a picture of which is shown. C. C. Quincy, A. B. Cook, H. J. Schmager, R. E. Bangham, H. B. Webster were in charge.

The Universal Stone Crusher Company, Cedar Rapids, Ia., showed the Universal crusher in operation, reducing three to four-inch stone to sand. I. L. Mitchell, H. E. Mitchell and W. H. Cox were on hand.

An exhibit of concrete fence post molds was shown by W. E. Varney, Cedar Rapids, Ia.

The exhibit of the Williams Patent Crusher and Pulverizer Company, also the Sturtevant Mill Company, of which Milton J. Williams assisted by R. E. Winter were in charge, included a roll jaw crusher, a Newaygo screen and a Universal machine.

The Wolverine Portland Cement Company, Coldwater, Mich., represented by E. R. Root, W. E. Cobean and Amos Kendall, Jr., showed samples of clay gypsum, clinker and finished cement. Their watch fobs were in much demand.

J. C. Campbell, A. M. French and Lloyd Brown exhibited the McKelvey concrete mixer, concrete elevator hoist buckets and cars, made by the Ohio Ceramic Engine Company, Cleveland, Ohio.

The United States Gas Machine Company, Muskegon, Mich., had on exhibition one of their world-beater block machines. Mr. Becker, A. F. Vila, James Ingalls, James Dick, L. Wade, C. H. Chris, Hansen and H. Schultz were in charge.

C. W. Overturf and F. W. Noelting had charge of the exhibit of C. W. Overturf & Company, showing their latest culvert and sewer molds and power driven concrete mixers.

The burial vaults exhibited by William Parry, Crown Point, Ind., attracted considerable attention from the general public, as well as from the concrete worker. William, H. E. and Vernon Parry were in charge of the exhibit.

The 1909 model of the Peerless one-man cement brick machine was in continuous operation. The Peerless Brick Machine Company, Minneapolis, Minn., was represented by L. V. Thayer, J. J. Palmer, C. E. Patterson, E. J. Swinson, Harry Brownell, C. M. Austin, C. L. Gonne, L. A. Thompson, Carl Jackson, L. M. Thompson and N. E. Goodwin.

The Perfect Brick & Post Mould Company, Kendallville, Ind., exhibited their concrete post molds and adjustable sill molds. C. S. West and S. A. Eckhart explained the working of these machines.

F. H. Parker and H. L. Parker, of the Parker Hoist and Derrick Company, Chicago, had on exhibition one No. 1 Parker derrick and one No. 100 gasoline reversible friction hoist.

Charles McCormick had sole charge of the exhibit of the Portland Cement Waterproofing Company, of Spokane. Pats of plain and waterproof cement and briquettes, which had been immersed in sea water, were distributed.

The Sandusky Portland Cement Company, Sandusky, O., had their entire magnificent exhibit which attracted so much attention at the Cleveland show here in Chicago, consisting of a Gothic window made by Rackle & Sons, Cleveland. O. P. B. Berry, F. J. Morse, R. R. Fish, L. B. Stuart, E. L. McMullen, H. C. Stimson and E. A. Mollan were all on hand at various times.

Harold G. Simpson, E. A. Bending, A. W. Ross and A. W. Simpson exhibited the cement porch columns, balustrades, and Simpson molds, manufactured by the Simpson Cement Mold Company, Columbus, O.

Inman Concrete Building Block and Machine Company, Beloit, Wis., exhibited the Inman patent shingle, double and triple air spaced building block, the Inman new 1909 model face down adjustable block machine, the Inman adjustable cap, sill and step mold. Exhibit in charge of C. E. Inman, O. D. and C. L. Inman and John Bishop.

The Foote Concrete Machinery Company, Chicago, had a Foote batch mixer with power loading skip and a Foote continuous mixer with traction attachment in full operation. The exhibit was in charge of F. C. Wilcox, assisted by H. B. Franklin, F. H. Ives, E. J. McHarg and C. T. Foote.

Ballou's White Sand Company, Millington, Ill., had an excellent display of its products and handed out some good literature on white-faced blocks, etc. The booth was in charge of J. F. Ballou, assisted by Thomas Belrose and B. P. Ballou.



WILLIAM DICKINSON, CHICAGO, VICE-PRESIDENT, CEMENT PRODUCTS' EXHIBITION COMPANY.

The Chicago Architectural Photographing Company, Chicago, showed some of its work in photographing cement work. The exhibit was in charge of Edward L. Ericson, assisted by E. W. Harvey and G. Flodin.

The Chicago Portland Cement Company, Chicago, had a beautiful booth, showing some fine imitations of Roman interior decorations. This exhibit was in charge of W. F. Main, J. U. C. McDaniels, D. D. Drummond, George S. Welch and Fred W. Clayton.

The Dodge Manufacturing Company, Mishawaka, Ind., showed its power transmission machinery and "Eureka" water softening apparatus. C. M. Collins was in charge, assisted by A. C. Schroth, George W. Mathews and Edw. Elden.

The Edmondson Concrete Machinery Company, South Bend, Ind., showed its two-piece block machine and its Starr cement brick machine. W. G. Elliott was in charge, assisted by J. A. Bowman, J. H. Willey and C. Dodds.

The De Armon-McKinney Manufacturing Company, Piqua, O., showed its double pressure cement block machine. Exhibit was in charge of C. W. De Armon, J. L. McKinney, C. E. Fielding and Frank Marshall.

George W. de Smet, Chicago, gave out literature and showed samples of Vulcanite Portland cement, Berkshire White and some samples of imitation marble, made of his water-proofing compound. Others at the booth were Frank Miller, Jr., L. Biggins, George P. Schwaab and Andride Montpillier.

Dexter Bros. Company, Boston, Mass., showed their Petrifax and gave out some good literature on the use of their product. Exhibit was in charge of G. Dexter and F. H. Nutting.



A CORNER OF ANCHOR BLOCKS.

The Clover Leaf Mixer Company showed its mixers and engines on trucks and skids. The exhibit was in charge of W. O. Williams, assisted by F. H. Stuckey, E. D. Shenefield, C. S. Smith and C. H. Lewis.

The Chatfield & Woods Sack Company, Cincinnati, O., showed its complete line of all rope paper cement sacks. The exhibit was in charge of James W. Sturgis.

The Coltrin-Boos Manufacturing Company, Jackson, Mich., exhibited the Boos adjustable block machine, Coltrin improved block machine and the Eureka brick machine, in charge of C. J. Boos, assisted by W. F. Morris.

The German-American Portland Cement Works, Chicago, exhibited its product under the direction of John J. Duggan, H. J. Hill and George White.

The Garden City Sand Company was represented by S. W. Curtis, C. H. Rose and William Chambers. These gentlemen showed the company's Stonekote and exterior hard wall plaster.

The F. G. Gauntt Manufacturing Company, Ft. Wayne, Ind., exhibited its continuous and batch concrete mixer. F. G. Gauntt and W. D. Miller were in charge. The Huntley Manufacturing Company, of Silver Creek, N. Y., manufacturers of cement packing machinery, were also in this booth. Their interests were looked after by F. M. Smith.

Horace G. Kimble, assisted by O. Christensen, of the Kent Mill Company, exhibited the Maxecon pulverizer. This machine was shown working and Mr. Kimble explained to all the theory of the ring that "wobbles."

The Arthur Koppel Company was ably represented by Otto Plessner, O. T. Christerson and their assistants, who exhibited the company's industrial narrow and standard railway materials, including steel dump cars, portable tracks, turntables, etc.

J. J. Luck, assisted by F. S. Townsend, had charge of the Luck Cement Post Company's exhibit. Cement posts and the molds for making the same were shown.

The Marsh Company had on exhibition three different styles of batch concrete mixers. George C. Marsh, J. M. Trevor, E. F. Haywood and J. A. Donahue were kept busy explaining the merits to the crowd.

The Marquette Cement Manufacturing Company had their booth arranged in the pergola style of architecture, with concrete colonnades and balustrades. The effect was most pleasing. Colonels William and T. G. Dickinson, John A. Dunlop, G. M. Henderson, G. S. Everingham, W. H. Eccles, C. H. McFarland, A. A. Sheneberger and Gold Williams were in charge.

D. H. Howe, C. E. Marvin, J. B. Graham, A. Newton and C. C. Bishop had charge of the exhibit of the Marblehead Lime Company. They described their famous crown hydrate, a water-proofing for concrete building blocks, and other commodities.

N. J. Morehouse had a very interesting display of concrete machinery, which included P. B. Miles' latest block machine, the Oliver automatic, the Coltrin concrete mixers, as well as other machines. Mr. Morehouse was assisted in his demonstrations by P. B. Miles, A. H. Dunn and Miss Laura Grace Acklev.

William S. Hotchkiss, of the Hotchkiss Concrete Stone Company, assisted by L. E. Hotchkiss and R. W. Western, had some of the company's pneumatic tamped concrete stone on exhibition, as well as sand and gravel from their pits and waterproof paint manufactured by the Billings-Chapin Company, of Cleveland, O.

The various cement products which the Peninsular Portland Cement Company had on view were shown by J. W. Shove, Henry Shove, J. Price, W. Murray and N. Neuman.

The Western States Portland Cement Company, Independence, Kan., placed G. McClarren and N. S. Potter, Jr., in charge of their booth. They showed their varied line of Portland cement.

The Allis-Chalmers Company had one of their alternating current motors for cement mill service, together with photographs of machinery and crushing plants in their exhibit. Herman Schiffin and C. A. Tupper represented the firm.

The Anhydrous Pressed Stone Company specialized with their anhydrous water-proofing compound. James W. Ryan described the same to the best effect.

Percy H. Wilson and C. W. Gaylord gave a continuous lantern slide show, in behalf of the Association of American Portland Cement Manufacturers.

The Arrowsmith long-handled finishing tools, manufactured by the Arrowsmith Concrete Tool Company, were operated by the manager, J. R. Horr, assisted by V. E. McClure and R. L. Sohn.

The Cleveland-Akron Bag Company, the Detroit Bag Company and the Buffalo Bag Company were all represented by C. W. Wright, A. W. Mayner, F. E.

Hall, W. Whaley, E. J. Warner and F. D. Ross, who had on view the Tyrite paper sacks, the Osnaburg sacks, water-proof paper-lined burlap and the Rubber-tex Asnaburg.

The American Lumberman had a prominent booth, giving an exhibit of their various publications. Albert Cone was in charge, ably assisted by Mrs. C. F. Oakley and Miss G. S. Seeley.

A very sanitary line of laundry tubs and sinks was shown by Charles Wesely, Jr., of the Charles Wesely Company, Chicago.

The Kennicott Water Softening Company had a miniature water softening plant in actual operation. Mr. Dunham was in charge.

The Insulite water-proofing, which is easily applied with a brush, was exhibited by the National Insulite Company. A. H. Mikesell was in charge.

The Systematic concrete mixer was shown by S. L. Wilson, Sid Wiltie and J. A. Lautenschleicher, of the Cement Machinery Company, Jackson, Mich.

The Diamond "three-in-one" roofing machine was shown by J. B. Gribbell, assisted by D. Haskinson, of the Diamond Cement Machinery Company, Toledo, Ohio.

The Marblecrete Products Company, J. R. Thomas in charge, assisted by R. N. Cunningham, P. F. Stafford and E. Towne, exhibited their various marblecrete products. They had a number of panels as well as clocks set in marblecrete. The clocks were raffled off.

A skeleton of reinforcing steel, called the monolith section, was explained by J. F. Golding and P. F. Owen, of the Monolith Steel Company, Chicago.

The National Wire Cloth Company and the Carey Construction Company occupied the same booth, showing their special chair for any combination reinforcing rods. G. J. Schade, C. H. Ferguson and R. E. Ramsdell were in charge.

Another monolith tube for air spacing was shown by T. B. Behrings, O. B. Conklin and H. Schoening, of the Chicago Monolithic Construction Company.

The various stages of cement material were pictured by the Northwestern States Portland Cement Company. George D. Dieckmann, P. A. Danielson, M. K. Sawyer, J. F. Lynch and D. H. Holly were in charge.

The Standard Scale & Supply Company had an exhibit in charge of Joseph Simpson, Joseph M. Conlan and W. A. Browning. They had an Eclipse concrete mixer on hand and demonstrated the use of this machine, claiming it needed less power to run it.

Zeiser Brothers, Berwick, Pa., were there with their sidewalk ties and dividing plates, which they hope to apply to concrete street construction.

The Raymond Concrete Pile Company, Chicago, represented by E. D. Watt and Charles L. Eldred, exhibited their Raymond concrete pile driver with a drop hammer. The pile core was one-eighth of regular twenty-foot pile core.

A machine making shingles, floor tile and wall tile was placed before the public by the Indiana Concrete Form Company, Indianapolis, Ind. J. H. Wiest was in charge, assisted by I. D. Wiest, K. Mendenhall and I. Tennar.

O. S. Case and J. J. Cox, of the Eureka Machine Company, Lansing, Mich., showed a continuous automatic mixer. The machine was operated during the show by alcohol power.

A Smith concrete mixer was shown in active operation by the T. L. Smith Company, C. Smith taking personal charge.

The Hill Clutch Company had on exhibition one of their Hill collar oiling bearings, which the Chicago Portland Cement Company have had in use for eleven years. H. Morrison was in charge.

The R. Z. Snell Manufacturing Company, R. Z. Snell, Mr. Hunsberger, O. B. Johnson and Elmer Tamphere in charge, placed on view their open drum concrete mixer.

Fred Mateer and George Stanfield, of the Mateer Brothers Company, Joliet, Ill., illustrated the latest ideas in concrete grave vaults, valuable for the reason that they are practically indestructible as far as the ravages of the elements are concerned.

The Toledo Wheelbarrow Company, Toledo, O., Frank Kumair in charge, exhibited as their specialty their brand new concrete carts.

The Richardson Scale Company, New York city, Mr. Richardson in charge, assisted by W. N. Goodman and Irving Speer, had in their booth a miniature copy of their automatic scale. This scale was shown in actual operation, but instead of weighing coal and clinkers, it weighed rice.

C. H. Thompson Company, Chicago, placed on view their vitrolite, a glass-faced brick. J. T. Groat and A. Curry were in charge.



CHARLES L. JOHNSON, CASTALIA, OHIO.

A good specimen of the centering for molding monolithic pipe was exhibited by the Mercantile Bridge and Concrete Tile Company, Paris, Ill. S. L. Sheets, patentee and inventor, was in personal charge with A. J. Martin.

The F. P. Smith Wire & Iron Works, Chicago, enjoyed the distinction of being the only booth on the floor with a canopy. This canopy was a section of their reinforced iron work. H. Fridstein, Ed McClure and A. M. Bradford were in charge of the booth.

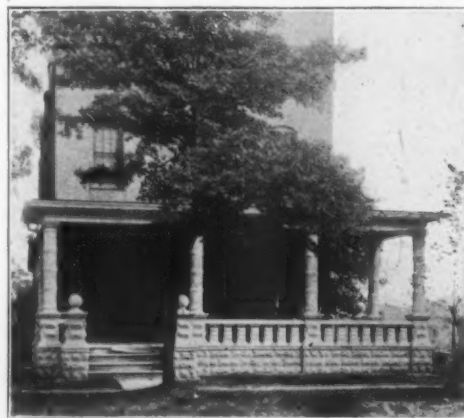
H. R. Dawson, R. E. Teets and A. Fielback were busy showing the concrete block machines and batch mixers of the Multiplex Concrete Machinery Company, Elmore, O.

Idealite, the imitation of marble, made by the Ideal Concrete Machinery Company, South Bend, Ind., was shown by M. Wetstein. They also had a complete line of Ideal concrete machinery.

The Kelly Island Lime & Transport Company, of Cleveland, O., in charge of F. H. Holland and W. Doolittle, were on hand with their Tiger brand White Rock finish, also their special hydrated lime. This exhibit was always crowded with visitors.

A good specimen of waterproof blocks was shown by H. R. George, representing the Thomas Cement Construction Company, Joliet, Ill.

The Universal Portland Cement Company's booth was one of the popular places of the show. In the receiving part, a fountain played all the time. There were benches and chairs with comfortable cushions which made a welcome place for the weary. An automatic stereopticon showed views of work where Universal cement was used in concrete. On another aisle one of the attractions were the pictures and drawings and charts of concrete houses drawn by members of the Chicago Architectural League for the contest conducted by the Universal



TYPICAL PORCH MADE WITH SIMPSON MOLDS.

Company last fall. The large staff of the Universal boys were on hand. President Hagar directed the work, assisted by his bowers, B. F. Affleck, B. H. Rader, J. C. Van Doorn, Edward Quebbman, the district sales managers, and a host of their assistants, including J. P. Beek, C. H. Boynton, A. E. Robinson, E. J. Dowdall, L. Alden Smith, E. S. MacGowan, H. MacRobert, Jr., A. C. Cronkrite, J. L. Nelson, Frank Bryan, C. D. Clugston, Walter Kypke, A. C. Wilby, Theodore Lazell, B. M. Bury, J. K. Hollock, W. C. Berry, O. H. D. Rohwer, M. R. Lilly, Blaine S. Smith, T. S. Pabst and several other of their boys.

Meacham & Wright, Chicago, had one of the most attractive exhibits at the show. The greater part of it was from the studio of Theodore A. Rowley, of Chicago. In the center of the booth was a reproduction of an old Pompeian Cornelius Rufus table on which rested a jardiner of Luccia Della Rabbia decorated with choir boys, the figures of which were in high relief. Two miniature reproductions of Canova lions found near an old Roman tomb also rested on the table. The two Roman chairs are reproductions of those found in an old museum. Panels and other decorations completed the exhibit, to say nothing of the handsome and hospitable gentlemen who make up this company and its organization. Fred Meacham and Frank Wright were assisted by their staff, C. M. Foster, Charles Reid and J. J. Sullivan. This company was assisted by J. M. Carrere and R. C. Vidal, of the Blane Stainless Cement Company, of which Meacham & Wright are the western agents.

Handles a Good Line.

N. J. Morehouse, of Waterloo, Iowa, has been making the rounds of the shows with his complete line of concrete machinery. He had an exhibit at Des Moines, Oklahoma City, Lincoln, Chicago and now at Minneapolis. At all of these he has sold quite a number of machines and made lots of friends.

The Coltrin mixer, which he is selling, is one of the best known mixers on the market today and hardly needs any introduction as there are many of them in use all over the country giving perfect satisfaction. The four strong claims advanced by the makers of this mixer are: That it will at all times deliver a more perfect, uniform mixture than any other mixing machine on the market or than is possible to do by hand; that it will give as strong a mix with 20 per cent less cement; that it will mix more concrete with seven men than any other machine with ten men; that taking into consideration the quality of the mix, the number of men employed, the power required, the expense for repairs, the Improved Coltrin Concrete Mixer will deliver concrete at 25 per cent less cost per cubic yard than any other mixer on the market today.

N. J. Morehouse also handles the Oliver Automatic Block machine, which is P. B. Miles' latest block machine. He was one of the first to invent the face-down machine. The new Oliver has what the concrete block manufacturers have long looked for, a machine with a wide range of work but no complications in the adjustments.

Chicago's Builders' Supply House.

The Wisconsin Lime and Cement Company have what they call the "Hard Plaster and Metal Lath Department." In that department will be found all of the following and many other articles; any one of which would make a good sized department in itself, metal lath, findings for metal lath, such as channels, staples, clips, tie wire, etc., hard plaster and wall finish, hydrated lime, Beavon board, prepared Portland for exterior plastering and rough coating, Sackett board, fireproof plaster, studs, etc.

The West Park Concrete Company has been incorporated at Rockport Village, O., with a capital of \$5,000, by Milton M. Lutz and others.

Greater New York Concrete Works, Manhattan, N. Y., has been incorporated to manufacture concrete, construct buildings, etc. The capital is \$450,000. The incorporators are F. G. Daniel, New York City; R. L. Bertin, Brooklyn, and P. H. Goldbaum, New York City.

The Ruker Cement Stone Company has been incorporated at Cleveland, O., with a capital stock of \$8,000, by F. A. Ruker, J. J. Stafford, H. J. Burkner, G. A. Camp and Julius Burkner.

The Portement Stone Company has been incorporated at Brooklyn, N. Y., to quarry and deal in stone and building material. Capital stock, \$10,000. Incorporators, James D. Horcombe, John R. Keefe and Ida E. de Murguiondo.

The Caldwell Concrete Company has been incorporated at Louisville, Ky., with a capital stock of \$1,000, by James S. Caldwell, Laura G. Caldwell and Duke Caldwell.

ON TO MINNEAPOLIS.

Convention of the Northwestern Cement Products Association Will Hold Their Next Meeting at Minneapolis.

SPECIAL PERSONAL INVITATION.

You are cordially invited to attend the opening exercises of the Fifth Annual Convention of the Northwestern Cement Products Association, and to visit the Exhibition of Cement Products and Cement Machinery on the floor of the Exhibit Hall, on Tuesday evening, March 2nd, at 8 o'clock, at the Armory, Minneapolis, Minn.

MARTIN T. ROCHE, President,
St. Paul.

J. C. VAN DOORN, Secretary,
Minneapolis.

J. M. HAZEN, Treasurer,
Minneapolis.

Vice-Presidents—O. U. Miracle, Minneapolis;
C. A. P. Turner, Minneapolis; Henry E. Murphy, Manitowoc, Wis.; Lee Stover, Watertown, S. D.; A. H. Laughlin, Lisbon, N. D.

Present this invitation at the entrance.

The above invitation has been extended to all the leading contractors, architects, concrete workers, engineers and in fact everyone in the Northwest. Up to the time of going to press thousands of replies have been received and there is every indication that the attendance will be the largest in the history of the organization. The show will be formally opened at 8 o'clock at the Armory by Mayor Haynes, who will make the opening address. The president of the Commercial Club will also make an address, as well as Martin T. Roche, the president of the association. A fine musical program will be given and Robert Gehan, the famous baritone soloist, will sing.

Every space in the exhibition hall has been sold and there is every indication that the convention will be the most successful from every standpoint yet held.

The Interstate Cement Tile Manufacturers' Association will hold their convention in conjunction with the big show.

The details of the convention arrangement are in the hands of special committees, all of whom report everything in readiness for the big show to open.

It is requested that every member registering shall give the name of the hotel or place at which he is stopping, so as to make it convenient for friends to locate them. A list of hotels with rates will be on file at the registration booth. Cloak rooms are provided for members and exhibitors.

Tile Manufacturers Meet.

The Interstate Cement Tile Manufacturers' Association will hold its third annual convention at the Armory, Minneapolis, Minn., March 2, in conjunction with the Northwestern Cement Products Association.

The members of the Interstate Cement Tile Manufacturers' Association are located in eight states, and the association is growing rapidly, as manufacturers of cement drain tile are joining the association to aid in the important work it now has under way.

The present membership represents an invested capital well over a million dollars, and the work of the association will continue to increase in importance as the manufacture of cement drain tile is comparatively new and is growing very rapidly, numerous plants in many states being now under construction.

A large attendance is expected, as the progressive work of this association is rapidly growing more important to its members.

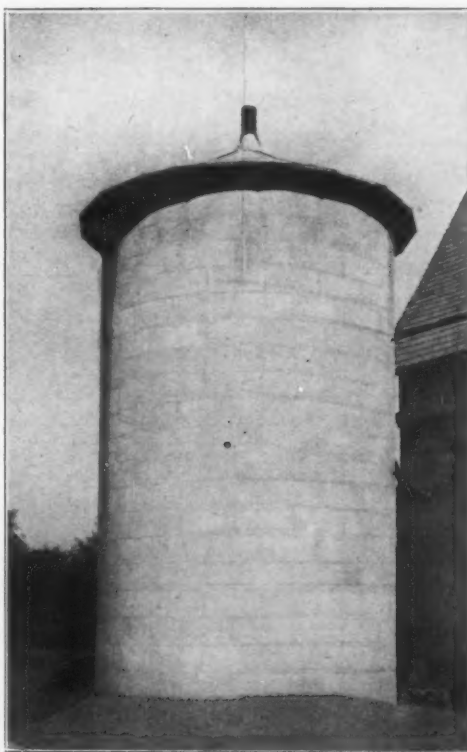
New Block Firm Near Boston.

WALTHAM, MASS., Feb. 10.—A new industry has recently been established in this city that will in all probability become of great importance, not only to this locality, but to the builders' supply trade all over the country as well. The Waltham Artificial Stone Company was organized here a short time ago, at the instigation of Robert Laidlow, a practical concrete block manufacturer of Martha's Vineyard. The company purchased about eleven acres of land here at Clement's Brook Station and erected a concrete block plant this winter. The property contains a large sand and gravel bank, sufficient to supply an immense concrete business for many years. The plant at present is small, but they plan to increase its capacity at once. They have a mixer run by a 3½-

horsepower motor, a Miller block machine, one brick machine, a sill machine, a flagstone machine and several smaller incidentals. They are going to install five new block machines as soon as they decide upon what they want. They are also about to install a rock crusher. Amongst the contracts they have on hand is one to furnish the concrete blocks for a new garage in Waltham for Elmer E. Jennison. The structure will be 98x49 and will contain 3,600 blocks. They have several large contracts in prospect for spring. In fact they are in a position to furnish concrete blocks so that a builder cannot afford to use any other material. They are furnishing blocks 20x8x8 at 16 cents each at the yard. These are waterproof blocks made from their own formula. They are using Atlas cement almost wholly. Mr. Laidlow has experimented extensively with the use of asbestos in concrete block structure and has found it to be a marvelous success, as it gives a finer finish and increases the tensile strength many times over. The asbestos used by him is a byproduct of the asbestos mines at Black Lake, P. Q., and is called asbestos sand. Mr. Laidlow has also been experimenting for a long time on a new cement asbestos wall plaster, which he has nearly perfected, and which will soon be produced for the market. The new company is composed of Lavatore Powers and Robert B. Johnson, of Waltham, and Robert M. Laidlow, the general manager. The postoffice address is Waltham, Mass.

Concrete Block Silo.

Lyons Sewer Pipe and Wall Plaster Company, of Lyons, N. Y., has been conducted for the past twenty years under the management of B. F. Lockwood.



CONCRETE BLOCK SILO ERRECTED BY THE LYONS SEWER PIPE AND WALL PLASTER COMPANY, LYONS, N. Y.

This company manufactures a sewer pipe ranging in size from 4 to 30 inches in diameter and is doing a thriving business in this line of work. Mr. Lockwood also manufactures concrete burial vaults, which are controlled by patents held by himself. He was also doing a fine business in this line. Mr. Lockwood is also the inventor of a patent concrete curbing conduit and gutter and says that he is having a fine success in this line.

Mr. Lockwood also holds the patents for concrete silos manufactured from concrete blocks. The illustration herewith shows a concrete silo manufactured and erected for Ransom R. Barnes, Clyde, N. Y., on his farm at that place. This silo is 24' high, 12' in diameter, and the size of the blocks used are 1' wide and 2' long. It is a beautiful looking piece of work and to anyone interested it would certainly prove to their advantage to write to Mr. Lockwood. He uses Empire Portland cement exclusively in all his work.

A Concrete Roadway.

EDDYVILLE, IA., Feb. 10.—L. P. Crosser, concrete contractor of this place, has finished ninety rods of concrete roadway about one-half mile east of town. The road here is over a hill and the farmers have found it a very difficult place to haul when they had loaded wagons. For this reason they appropriated money for paving and selected concrete. The road is sixteen feet wide and is laid with a "V" groove. The concrete has a seven inch bottom with an inch and one-half wearing surface. The aggregate was made up with Atlas and Iola Portland cement with sand and gravel from the nearby river. The foundation was made of a one to five mixture with a two to one top or finish. The roadway has been giving excellent service so that an additional stretch has been ordered.

Experimental Blocks in New York.

Concrete blocks are to be used for the construction of the new Thirteenth Precinct police station, at the southeast corner of Clinton Street, facing the Williamsburg Bridge, New York City. This plan is in the nature of an experiment, as previous police structures have invariably been built of stone or brick.

Plans for the building, which will have accommodations for two hundred men and forty prisoners, are complete, and work will be begun in the spring. Edward Pierce Casey, of No. 1 Nassau Street, is the architect.

Fireproof Apartment House.

Plans have been prepared for a modern eight-story reinforced concrete apartment house on the east side of Union Avenue, between Seventh and Eighth Streets, Los Angeles, Cal., on a lot 72x150 feet. The architect is A. L. Haley, Inc.

As the building will be one of reinforced concrete, it will be as nearly fireproof as it is possible to build, and it will be among the first of this class of structures to be so constructed in Los Angeles. The building will cost \$125,000.

Concrete Pile Contract Awarded.

The contract for placing Raymond concrete piles in the foundations of sub-station No. 2 of the Union Railway Company at 165th Street and Brook Avenue, New York City, has been awarded to the Raymond Concrete Pile Company, of New York and Chicago, by F. W. Whitridge and R. F. Mullaney, respectively receiver and chief engineer of the Third Avenue Railroad Company; A. C. Hedman, architect; J. H. Deeves & Bros., general contractors.

Will Expand Business.

F. B. Scowden and J. A. Scowden, of the firm of Scowden Brothers, Meadville, Pa., have returned from Cleveland, where they attended the National Cement Users' convention. While at Cleveland Messrs. Scowden bought some new equipment for their concrete business which will enable them to more than double their daily output. During the past few years their business had steadily grown and they are now arranging to enter a wider field of activity.

Very Large Garage.

The Turner Construction Company, 11 Broadway, New York, has recently been awarded the general contract for the construction of a reinforced concrete garage for Fred E. Gilbert, to be erected in Jacksonville, Fla. The plans call for a five-story and basement building, 102'x102', of reinforced concrete throughout. Work will be undertaken shortly.

M. O. Baker has just completed arrangements with the Fellbach Company, wholesale grocers of Toledo, O., to build for the latter a six-story and basement reinforced concrete structure to cost about \$50,000. The building, which is to be 60x110 feet in dimensions, will be located on Erie Street, between Washington and Lafayette, and adjoining the fine concrete building that was erected some time ago by Jerome H. Smith for the Toledo Merchandise Company.

One of the latest applications of reinforced concrete construction in Los Angeles is the building of the new home of the Los Angeles Creamery Company, at Twelfth Street and Towne Avenue, figures on which are now being taken. Plans are by Train & Williams.

The nature of the construction makes it absolutely sanitary and fireproof, and it is, therefore, particularly well adapted for the purposes for which it is designed.

It will occupy a lot 84x162 feet, the long frontage being on Towne Avenue. It will be three stories high.

Magnificent Reinforced Concrete Theatre.

LOS ANGELES, CAL., Feb. 5.—The completion of the Hamberger Theater adds another one to the number of magnificent reinforced concrete buildings of this city.

Both the balcony and gallery are built of reinforced concrete along the lines of the now familiar cantilever type, which eliminates obstructing supporting columns, and they extend the entire width of the auditorium, some 70 feet.

The balcony is supported by six reinforced concrete cantilevers, giving it a free overhang of 30 feet. The two side cantilevers are brackets 16 feet long, coming off the truss columns at each side of the auditorium. The four great central cantilevers, two of which are 45 feet long and two 51 feet long, have a clear overhang of 29 and 30 feet, respectively. They are supported on independent columns, placed behind the last row of seats on the main floor, forming part of the division wall between the auditorium and the foyer. The cantilevers rest on these columns, extend back over the foyer and are anchored in the reinforced solid concrete wall, six stories high at the rear of the auditorium. These cantilevers vary in section from 10 inches wide and a foot deep at the outer end, to 18 inches wide and 6 feet deep at the maximum section over the column supports, and are reinforced with seven 1½-inch square twisted steel bars on the upper or tension side at the latter section, which extends back over the anchor arm and into the rear wall. There are also three 1-inch square twisted bars on the lower, or compression, side. These two groups of steel are laced together by smaller steel, termed stirrups. The quantity of steel decreases as the end of the cantilever is approached and the load becomes less, the greatest strain in a cantilever being over the support.

That portion of the balcony between cantilevers is constructed very similar to an ordinary joist system. The risers, or steps, are reinforced concrete beams, resting on the cantilevers, and are monolithic with them, the slab being supported on the top of one riser, and hung from the bottom of the next. These reinforced concrete risers or beams, unlike any other constructions, are cast to conform to the curve of the balcony seats, a form of construction that could not be carried out in structural steel except at great expense, and with a large increase of dead weight.

Both the balcony and gallery have been tested for double the load they were calculated for. In making these tests the cantilever, or overhanging arm only, was loaded, no load being placed on the anchor arm. This, of course, was the worst possible condition, and makes the test an extremely severe one. A superimposed load of 95,600 pounds, or 47½ tons, was placed on a panel in the balcony, extending from one cantilever to another, and from the supporting columns to the front rail, an area of 381 square feet, or a little over 200 pounds per square foot. The deflection at the end of the 30-foot cantilever was 7.32 of an inch. In the gallery a similar load of 87,400 pounds was placed directly over one cantilever, and extending from center to center of adjacent panels, and as before from the column support to the front rail of the gallery, an area of 311 square feet, or a trifle less than 270 pounds a square foot. The deflection at the end of the cantilever, 26 feet long, was only ¾ of an inch.

On either side of the proscenium arch, which, by the way, is of reinforced concrete, are boxes in two tiers. No two boxes are on the same level, but are so arranged that the rail of the farther box is on a level with the heads of the people in the box nearer the stage. These boxes project from the walls, and are supported by a reinforced concrete cantilevered slab. It is interesting to note that the complicated structure around the boxes, consisting not only of the boxes, and rails at different levels, but also partitions, walls, several flights of stairs, and the main wall of the building are monolithic, being all cast at the same time.

The spanning of the auditorium with three great reinforced concrete trusses is another audacious, but successful engineering problem solved. There are trusses of longer span, notably those in the Temple Auditorium, at Fifth and Olive Streets, this city, which are, however, more truly arches and support only the roof. When one considers that the trusses in the Majestic Theater are horizontal and carry a three-story building above them, in addition to a roof, the magnitude of the undertaking is apparent. The trusses are 72 feet long over all, and each is calculated to support a load of more than 750,000 pounds, which, expressed in other terms, means 375 tons, or nearly 19 carloads of 20 tons each. The trusses are 10 feet high, 24 inches wide at the top and 18 inches wide at the base. They are reinforced in the top "chord" with 12 1½-inch square twisted steel bars, while there are 15 1½-inch square twisted steel bars in the bottom "chord." The tops of the trusses form the sixth floor of the office portion of the building, which extends back over the auditorium.

Above are the seventh and eighth floors and the roof, alike supported by columns coming down on these trusses.

When the centering, or temporary supports used during the construction, was struck no settlement or deflection was observed even with an instrument set on a hairline, although the trusses were carrying more than 250 tons each, all the concrete structure above having been completed. At the rear of the stage is an 80-foot concrete wall eight inches thick, with scarcely an abutting column for support. So true and firm has the concrete construction been made it reverberates like a great drum when struck with a sledge. The gridiron over the stage consists of several reinforced concrete beams suspended from the stage roof. Dressing rooms for the stage are in three tiers and are of reinforced concrete. There are other features of the construction in the way of girders, and specially designed columns to resist flexure, etc., but these require, in some instances, too technical language, as well as complex drawings to explain. Those features described are sufficient to reflect credit upon those connected with the design and construction of the Majestic. Edleman & Barnett are the architects, Mayberry & Parker, architectural engineers, designed and supervised the construction of the reinforced concrete structure, and the building is being erected by the F. O. Engstrom Company, all Los Angeles firms.

A 350-foot Maximum for Buildings.

The Building Code Revision Committee of New York has decided to limit the height of buildings in Greater New York to 300 feet, unless a structure fronts on a park, a square or a plaza, in which case the total height is not to exceed 350 feet. Where the width of the streets is less than 45 feet the height of the buildings may be 135 feet. No fireproof buildings of classes "E" and "F," except office buildings, observatories and grain elevators, hereafter erected or altered, shall exceed 150 feet in height.

Class "E" buildings include: Office buildings, lofts, stores, warehouses, restaurants, markets, refrigerator plants, stables, factories, workshops, printing houses, slaughter houses, rendering plants, breweries, sugar refineries, observatories. All buildings of this class hereafter erected over 59 feet in height shall be of fireproof construction.

Class "F" includes: Light and power plants, car barns, garages, smoke houses, laboratories, railroad freight depots, oil houses, oil refineries, grain elevators, foundries, coal pockets. All buildings of this class hereafter erected shall be of fireproof construction.

Hollow Concrete Poles.

A type of reinforced concrete pole, developed and used to some extent in Germany and just introduced into England, was recently described in the *London Electrician*. These poles are made in a machine invented by Hans Siegart. They are hollow and tapering, in lengths up to about forty feet. The machine is capable of making columns of any size and lengths within the limits of forty feet long and two feet in diameter. Pipes can also be made in lengths three or four times as great as those customary for iron pipes. In the process of manufacture a long sheet-iron core is mounted on two trestles, running on rails, so as to be capable of rotational and longitudinal movements.

Upon this core small longitudinal steel rods are fixed. The core is drawn through the machine, which is stationary. Concrete made of clean screened grit and Portland cement is mixed dry in a mechanical mixer and discharged through a chute into a hopper or drum, in which rotating paddle-wheels regularly discharge the concrete upon a bandage of coarse webbing laid on a conveyer belt that takes one lap around the core. This continuous traveling conveyer belt is stretched so that the concrete is wrapped about the core under great pressure.

As the core issues beyond the conveyer belt, wire is fed spirally around it so as to press into the concrete wrapping, and small rollers then apply great pressure by working on the webbing, the slack of which, caused by the reduction in diameter, resulting from this pressure, is taken up by another device. The core as it issues from the machine is wrapped about spirally with a bandage of cloth.

The machine pulls the trestles forward with the suspended core as the concrete is wrapped on, and when the core has passed completely through the machine, it is lifted by an overhead crane and laid to one side to harden. It is kept constantly damp, so as to secure the maximum hardness. In about twelve hours the interior sheet metal core is reduced in diameter by means of a screw attachment inside and withdrawn.

After hardening six days the bandage of webbing is removed and the pole is then complete for setting. Poles are made up to thirty-nine feet long and pipes up to twenty feet, two feet in diameter. The poles are estimated to have a life of fifty years, and during that time will cost nothing for maintenance. On this basis the total cost of an electric railway pole at the end of fifty years is estimated to be \$20 for the concrete pole, \$50 for an iron pole and \$53 for a wooden pole, all including maintenance, repairs and renewals. This is for a twenty-nine-foot pole.

For a thirty-six-foot pole for transmission service, and for the same period, the corresponding figures are: For the concrete pole, \$26; for the iron pole, \$68, and for the wooden pole, \$68.50. Any desired amount of ornamentation may be given to the poles. Some tests on a pole of this type, thirty-two feet nine inches long, showed a deflection of two and three-quarter inches with a tensile strain of 15,000 pounds. The process is also applicable to the manufacture of concrete piles.

Another Railroad Tie.

A company is being formed in Los Angeles, Cal., for the manufacture of concrete railroad ties, to take the place of wooden ones, which are fast becoming too expensive on account of the scarcity of timber and the short life of the ties. Two thousand of the ties are to be made at once for the roads in Los Angeles.

The concrete tie, which is the invention of Elijah D. McDonald, has been tested on the main line of the Santa Fe during the past sixteen months. Two of these ties, which were taken up a short time ago, show no appreciable wear, and have performed the same service as wooden ties at much less cost.

The rails are fastened to the ties in the same manner as with wooden ties, the spikes being driven into iron sleeves fixed in the concrete, which hold the rails as firmly as the wood.

The concrete ties are meant chiefly for use on paved streets and in railway yards, and it is estimated their use will save \$1.10 per tie a year, or about \$2,000 a mile. The inventor thinks if they are adopted on all of the streets of Los Angeles it will effect a saving of \$1,000,000 a year.

The Universal Stone Crusher Company, of Cedar Rapids, Iowa, in their most recent circular call attention to their Veltan Crusher. This machine is made up of fourteen parts, with three full bearings and two half bearings. It is so fitted with a toggle plate that if by accident a sledge hammer or any other large article of this description is dropped into the machine, the toggle plate will disconnect and the jaws will fly open. This is a protection against breaking out the front of the machine. The 1908 pattern is fitted out with chain oilers on the shafts and compressed oilers on the jaws. After installing the machine, if it does not do all that they claim, they will refund the money. They claim that this machine requires only one-half the power required by any other machine on the market in the United States today and that they can prove this by showing you its workings. They say that the maintenance expense for repairs and breakage will be less than half of that on any other machine. They request that you give them specifications, setting forth the number of cubic yards you wish to crush per day, the quality of rock you desire to crush, and the size to which you wish it crushed, and they will figure out the required size of machine you need at your plant.

The Miracle Pressed Stone Company has been incorporated at Wilmington, Del., with a capital stock of \$25,000, by Calber Anderson, Harry Evans, Curtis G. Bupp, all of Wilmington.

The Concrete Coating Company has been incorporated at Springfield, O., with a capital stock of \$20,000, by Ellsworth Craig, Dr. E. F. Davis, W. S. Lefevre, John T. Ricks and J. F. Whiting.

The General Concrete Construction Company has been incorporated at 315 Dearborn Street, Chicago, with a capital of \$10,000.

The Canton Cement Specialty Company, Canton, Ga., has been incorporated with a capital of \$10,000, by M. Nelson and others.

The Cropp Concrete Machinery Company has been incorporated in New York City for manufacturing machinery and supplies, with a capital stock of \$30,000, by A. J. Cropp, A. J. Sherman and B. M. Cropp.

The Western Cement Brick Company has been incorporated at Los Angeles, Cal. The directors are J. H. Clement, W. A. Stutsman, C. A. Stutsman, W. B. Forden and S. F. Johnson. The capital stock is \$250,000.

REGISTER OF ILLINOIS RETAILERS MEETING.

Continued from page 49.

- Geo. A. Wyatt, Kewanee, Ill.; dealers in lumber.
Mrs. L. H. Allen, Hunter Allen & Co., Lacon, Ill.
L. H. Allen, Hunter, Allen & Co., Lacon, Ill.; lumber.
H. E. Chamberlain, Little York, Ill.; building material.
R. C. Higgins, Home Lbr. Co., Libertyville, Ill.; lumber, coal and feed.
W. H. Ritter, Wilbur Lbr. Co., Lanark, Ill.; lumber and building material.
G. P. Luce, P. A. Lord Lbr. Co., La Grange, Ill.; lumber.
Leo A. Stevens, Hunlee, Stevens & Co., La Salle, Ill.; lumber and building material.
A. E. Wantz, Chas. Harbaugh, Lake Villa, Ill.; lumber, coal, feed, etc.
A. F. Lunhann, A. F. Lunhann, Lakewood, Ill.; lumber and building material.
W. F. Stevens, Hunter, Stevens & Co., La Salle, Ill.; lumber.
S. O. Nudson, Emmons & Mercer Lbr. Co., Libertyville, Ill.; lumber, etc.
Edwin A. Bishop, Emmons & Mercer Lbr. Co., Libertyville, Ill.; lumber and coal.
Chas. Harbaugh, Chas. Harbaugh, Lake Villa, Ill.; feed and coal.
Robert Sempel, Robert Sempel, Lewistown, Ill.; lumber.
L. E. Fuller and F. G. LaBlanc, Lumber World, Chicago.
Ed. Munger, E. R. Darlington Lbr. Co., Leroy, Ill.; lumber.
John M. Lyn, John L. Lyn, LaHarpe, Ill.; lumber and building material.
Mrs. A. W. Green, Lena, Ill.; lumber.
A. W. Green, Crotzer Green Lbr. Co., Lena, Ill.; lumber, cement, etc.
Wm. Hammerschmidt, Lombard, Ill.; coal, lumber.
Albert F. Mall, Frank Mall Lbr. Co., Aurora, Ill.; lumber, etc.
H. C. Daggett, I. N. R. Beatty Lbr. Co., Magoon, Ill.; lumber.
A. E. Allen, Marseilles, Ill.; lumber and cement.
I. N. Evans, I. N. Evans, Waumpum, Ill.
H. Eberhart, Manhattan, Ill.; lumber and building material.
W. G. Cochran & Co., Marion, Ill.; lumber.
Chas. O. Foulke, Foulke & Simeral, Macomb, Ill.; lumber, lime.
Chas. Hanan, Chas. Hanan, Macomb, Ill.; lumber.
Fred Stotlar, Stotlar-Herrin Lbr. Co., Marion, Ill.; lumber, etc.
Mrs. Harriet Stotlar, Marion, Ill.
Robert H. White, Lyons & White, Marissa, Ill.; lumber, etc.
D. D. Zimmerman, Manito, Ill.; lumber.
C. S. Jones, Jones & Koford, Minier, Ill.; lumber, etc.
Ray Wilbur, Wilbur Lbr. Co., Milwaukee, Wis.; lumber and building material.
T. W. Elrich, Mendota, Ill.
W. R. Crisler, Tibbits-Cameron Lbr. Co., Roselawn, Ind.
F. P. Tibbits, Tibbits-Cameron Lbr. Co., Roselawn, Ind.
H. C. Searce, Mooresville, Ind., Sec. Retail Dealers' Ass'n of Indiana.
Henry Smithers, John P. Code Lbr. Co., Morse, Ill.; lumber, etc.
J. W. Sipher, Sipher Lbr. & Coal Co., Monmouth, Ill.
C. K. Million, Million Bros., Munayville, Ill.; lumber.
J. N. R. Beatty Lbr. Co., Morris, Ill.; lumber.
B. H. Pollock, B. H. Pollock Lbr. & Coal Co., Mt. Vernon, Ill.; lumber.
S. O. Derby, S. O. Derby, Morgan Park, Ill.; lumber, coal.
E. W. Peters, Jefferson County Lbr. Co., Mt. Vernon, Ill.; lumber.
H. C. Reynolds, H. C. Waite Lbr. Co., Minneapolis, Minn.; lumber and shingles.
Clyde Fearheiley and Wm. Sturman, Sturman Lbr. Co., Mt. Carmel, Ill.; lumber, hardware, cement, builders' material.
F. G. McCullough, McCullough Lbr. and Coal Co., Monmouth, Ill.; lumber, coal, lime and cement.
Myron D. Smith, Nashville, Ill.; lumber, etc.
Fred J. Koch, New Baden, Ill.; lumber, cement, etc.
C. L. Minier, Minier Bros., Nebo, Ill.
R. H. Roberts, New Boston, Ill.; lumber, etc.
E. J. Metcalf, Normal, Ill.; lumber and building material.
A. E. Weaver, The O. H. Paddock Lbr. Co., Nokomis, Ill.; lumber.
R. T. Paddock, The O. H. Paddock Lbr. Co., Nokomis, Ill.; building material.
O. J. Conner, Conner's Lumber Yard, Ohio, Ill.; lumber, etc.
Chas. Reiger, Oswego, Ill.; lumber, coal and cement.
A. C. Brodish, A. B. Brodish, Ottawa, Ill.; lumber.
J. D. Vincent, Hamilton & Vincent, Ottawa, Ill.; building material.
L. M. Bayner, Ottawa, Ill.
F. K. Stevens, Hunter, Stevens & Co., Oglesby, Ill.; lumber, building material and masons' supplies.
J. F. O'Donnell, The A. H. Paddock Lbr. Co., Ohlman, Ill.; lumber.
Z. J. Cawood, J. M. Cawood & Son, Palestine, Ill.; building material, cement, etc.
J. T. McGrath, McGrath-Hetley Lbr. Co., Polo, Ill.; lumber, cement, etc.
Fred Apkin, Petersburg, Ill.
E. Willett & Co., Poplar Grove, Ill.; lumber.
E. F. Wagenknecht, C. Zimmermann & Co., Peru, Ill.; lumber.
Robert Pogue, Pogue Bros. Lbr. Co., Paw Paw, Ill.; lumber, coal, lime, cement, etc.
E. J. Darst, E. J. Darst & Son, Peoria, Ill.; lumber.
Joseph Miller, Joseph Miller Sons, Peoria, Ill.; lumber.
Frank J. Miller, Joseph Miller & Sons, Peoria, Ill.; lumber.
J. E. Hollister, Peconia, Ill.; lumber and building material.
Thos. Collins, Baird & Collins, Peotone, Ill.; coal, lime, brick, drain tile.
Mrs. R. G. Mackenard, J. W. Mackenart Co., Peoria, Ill.; lumber.
M. Mackener, M. Mackener Lbr. Co., Hanna City, Ill.; lumber and cement.
R. G. Mackener, J. W. Mackener Co., Peoria, Ill.; lumber and cement.
Ralph G. Mackener, J. W. Mackener Co., Peoria, Ill.; lumber and cement.
L. L. Watson, U. S. Gypsum Co., Peoria, Ill.; plaster and building material.
Mrs. J. W. Mackener, J. W. Mackener & Co., Peoria, Ill.; lumber and building material.
L. R. Davis, A. L. Davis & Son, Princeton, Ill.; lumber.
J. W. Mackener, J. W. Mackener & Co., Peoria, Ill.; lumber and building material.
Jesse Stone, Potomac, Ill.; lumber, coal and implements.
Gus Moritz, Peoria, Ill.
Chas. J. Sutter, Peoria, Ill.
Geo. J. Rothan, Peoria, Ill.; lumber, sash, doors, etc.
D. F. Velde, C. L. Velde & Co., Pekin, Ill.; lumber.
W. I. McKee, W. I. McKee Lumber Co., Quincy, Ill.; lumber.
Henry B. Moller, Moller & Vandenoorn Lbr. Co., Quincy, Ill.; lumber.
J. M. Headik, Neola Elevator Co., Rochelle, Ill.; lumber, gravel, coal, etc.
F. E. Wickwire, Smith, DuPlain & Crumb Co., Rockford, Ill.; lumber.
Geo. E. Framzen, Roselle, Ill.
T. D. Reber, Rockford Lbr. and Fuel Co., Rockford, Ill.; lumber and fuel.
Geo. F. Colton, McFarland-Colton Co., Rockford, Ill.; lumber and fuel.
Harry E. Otey, Robinson, Ill.
Joseph A. Duplain, Fred A. Smith Lbr. Co., Rockford, Ill.; lumber, coal, etc.
Chas. Ritch, Ritch Bros. Rockford, Ill.; lumber.
M. E. Reynolds, M. E. Reynolds, Rutland, Ill.; lumber and building material.
O. B. Deitz, Speer, Ill.; lumber.
W. P. Lillibridge, St. Charles Lumber Co., St. Charles, Ill.
S. A. Holcomb, Holcomb Bros., Sycamore, Ill.
G. H. Safford, Rockford, Ill.; lumber and feed.
R. F. Myers, R. F. Myers, Sheldon, Ill.; lumber, coal and cement.
Chas. W. Hall, H. R. Hall & Co., Sandoval, Ill.; lumber, cement, etc.
C. M. Packard, Shirland Lbr. Co., Shirland, Ill.; building material.
J. B. Castle, Mosher & Castle, Sandwich, Ill.; lumber and building material.
Frank Welch, Hinderleter & Welch, Smithfield, Ill.; lumber, etc.
M. P. McCullough, Brooks & Ross Lbr. Co., Schofield, Wis.; lumber.
H. R. Hagel, Brooks & Ross Lbr. Co., Schofield, Wis.; lumber.
F. T. Rolph, Streator Lbr. Co., Streator, Ill.; building material and coal.
W. P. Rhoades, Sarumed, Ill.; lumber and coal.
R. R. Cobb, A. J. Warwick, Sheldon, Ill.; lumber and building material.
John H. Pritzman, Shannon, Ill.; lumber.
Horace C. Irvin, Springfield, Ill.; building material.
L. A. Beardsley, Robert J. Rowe, Sheridan, Ill.; lumber and masons' supplies.
A. L. Lindner, Philip S. Lindner & Co., Sandwich, Ill.; lumber, etc.
Philip S. Lindner & Co., Sandwich, Ill.; lumber, etc.
F. A. Grimes, Moses Dillon Co., Sterling, Ill.; lumber, coal and building material.
J. B. Lewis, J. C. Simpson Co., Sterling, Ill.; lumber, cement, etc.
Mrs. R. F. Myers, R. F. Myers, Sheldon, Ill.
Geo. A. Williams, Kratzer & Fisher Co., South Chicago, Ill.; sash, doors, etc.
Jesse Stevens, Fairburg, Ill.; lumber, etc.
C. S. Jones, C. S. Jones & Son, Stanford, Ill.; lumber, and coal.
Clyde Dunn, Hunter Lumber Co., South Wilmington, Ill.; lumber and building material.
W. H. Norton & Co., Somonauk, Ill.; lumber.
Henry C. Keuker, H. F. Keuker & Son, Troy, Ill.; lumber and building material.
Van Petten & Hess, Van Petten, Ill.; lumber, coal, brick, cement, etc.
C. F. Taylor, Warren, Ill.
R. C. Sellon, Wyoming, Ill.
Mrs. C. D. Rourke, Urbana, Ill.
C. D. Rourke, Hunter-Rourke & Co.; lumber, building material, coal.
J. E. Wilson, Utica, Ill.; lumber, sash, doors, cement, plaster, etc.
Henry Bernardine and wife, West Brooklyn, Ill.; lumber and coal.
A. T. Early, Frisco Lbr. Co., Villa Grove, Ill.; lumber, coal, etc.
Chas. P. Tomlinson, The O. H. Paddock Lbr. Co., Windsor, Ill.
Mrs. C. P. Tomlinson, Windsor, Ill.
J. P. Snader, J. C. Simpson & Co., Walnut, Ill.; building material.
W. M. McFarlane, Pogue Bros. Lbr. Co., Waterman, Ill.; lumber and building material.
Henry T. Boeger, Yawkey-Crowley Lbr. Co., Watertown, Wis.; lumber.
W. H. Hunter, Rice Brown Lbr. Co., Leslie, Ark.; oak.
F. E. Moreland, The Moreland & Johnson Lbr. Co., Reedsburg, Wis.; lumber, etc.

Second Day's Registration.

- W. G. Clement, G. W. Jones Lbr. Co., Appleton, Wis.; lumber.
A. E. Foster, Neola Elevator Co., Arlington, Ill.; lumber.
Hussey Lbr. Co., Amboy, Ill.; lumber and coal.
E. S. Hanna, Hanna & Tood, Aurora, Ill.; lumber.
J. C. Young, T. F. Young & Son, Abingdon, Ill.; lumber, coal and grain.
C. S. Dodge, Tibbitt-Cameron Lbr. Co., Arlington Heights, Ill.; lumber and coal.
W. R. Brown, Alexander Lbr. Co., Astoria, Ill.; building material.
D. K. Nivison, Soper-Nivison Lbr. Co., Aurora, Ill.; lumber and millwork.
J. S. Barker, Alexander Lbr. Co., Aurora, Ill.; lumber and coal.
W. J. Geiger, Baileyville, Ill.; lumber and coal.
Reynolds Johnson, Bishop Hill, Ill.; lumber.
Henry B. Ruge, Wilke & Ruge, Beecher, Ill.; lumber, coal, lime and cement.
W. M. Simmons, Berwick, Ill.
J. G. Priff, Belvidere, Ill.; lumber, coal and cement.
R. B. Tiffany and Roy Tiffany, Belvidere Lbr. and Fuel Co., Belvidere, Ill.; lumber and coal.
Blue Island Lbr. Co., Blue Island, Ill.; lumber.
F. R. Stratton, F. R. Lindner & Co., Buda, Ill.; lumber and building material.
Geo. W. Miller, Byron, Ill.; lumber, cement, lime, salt, etc.
J. M. Cook, J. M. Attley & Co., Chicago, Ill.; dealer in hardwoods.
James S. Norton, Neola Elevator Co., Chicago, Ill.; lumber.
F. E. Howard, Chicago, Ill.; sash and doors.

The National Meeting.

The annual meeting of the National Builders' Supply Association has come and gone; it was a successful meeting well attended. There were not as many retailers there as there should have been, but take the capital invested in the line and one can see that a big chunk of it was represented at this meeting. In other words, they practically are the retail material business at the principal cities and are the aggressive men in the trade.

However, this association should be 1,000 or 2,000 strong. It has a province which can influence the manufacturer to treat its membership kindly; it can insist on the retailer reciprocating by treating the manufacturer fairly. In other words, it is the chain between the manufacturers of building materials and the retailer. The man who should really handle all the materials with the exception of contracts above certain size where special arrangement has to be made by the manufacturer. Of course we would all like to have boards that did not have any knots in them. We would like to have this association become the most potent factor for maintaining and uplifting the building material trade on to the proper lines.



NATIONAL BRICK MEETING.

Big Annual Meeting and Liberal Appropriation for Promotion.

ROCHESTER, N. Y., Feb. 8.—The twenty-third annual convention of the National Brick Manufacturers' Association was held in this city February 1-6, in Convention Hall. About 400 members were present. The meeting was called to order by President M. E. Gregory, of Corning, N. Y. Many interesting and instructive papers were read and a general feeling of enthusiasm was expressed throughout the entire convention.

The following officers were elected and installed: President, Lemon Parker, St. Louis; first vice-president, W. P. Blair, Terre Haute, Ind.; second vice-president, C. M. Crook, Youngstown, O.; third vice-president, C. A. Bloomfield, Metuchen, N. J.; secretary, T. A. Randall, Indianapolis; treasurer, J. W. Sibley, Birmingham, Ala.

C. A. Bloomfield was re-elected to serve on the Committee of Technical Investigation. The other members of the committee are Edward Orton, Jr., and W. D. Richardson, Columbus, O.; Anthony Ittner, St. Louis, and D. V. Purington, Chicago.

Among the more important developments of the convention was the organization of a practical movement for the securing of publicity for clay products. This organization took the form of a new national association named the Clay Products' Association of America, whose sole purpose will be the promotion of the clay interests of the country. The officers elected to take charge of the work of this new organization are R. G. Eisenhart, of Horseheads, N. Y., president; J. Howard Chambers, of Chambers Brothers' Company, of Philadelphia, vice-president, and J. Parker B. Fiske, of New York City, secretary-treasurer. The executive committee consists of these officers and John W. Sibley, of Birmingham, Ala.; W. M. Hodges, of Bradford, Pa., and Will P. Blair, of Terre Haute, Ind.

American Ceramic Society.

In conjunction with the convention of the National Brick Manufacturers' Association, the American Ceramic Society held its annual convention February 2-3, with about fifty members present.

The officers elected were as follows: Ross C. Purdy, president; Arthur S. Watts, vice-president; Edward Orton, Jr., secretary; Ellis Lovejoy, treasurer; Harrison E. Ashley, member of council.

Among the interesting papers presented was one by Prof. A. V. Bleining, ceramic chemist of the United States Geological Survey, formerly of the Illinois State University, describing the extent of the plans and work contemplated by this newly inaugurated department of government research. Its importance to the clay industries of the country cannot be overestimated, and every clay-products manufacturer should be interested in the work of Professor Bleining and his associates, and in the elaborate equipment being installed to enable them to carry on this work. In his statement of the matter, amply illustrated by stereopticon, Professor Bleining said, in part:

"With the constantly increasing importance of clay products as a structural material and in view of the fact that the government spends about \$40,000,000 annually in construction work, Congress authorized the prosecution of testing work upon all building products made from clay used by the federal government. This step was especially timely, owing to the growing scarcity of timber and the enormous fire losses of the country."

STATE CONVENTIONS OF CLAY WORKERS.

The annual meeting of the Iowa Brick and Tile Association was held in Mason City, Ia., January 13 and 14. The officers elected for the new year are as follows: Judge J. L. Stevens, of the Boone (Ia.) Brick, Tile and Paving Company, president; Paul Beer, of Des Moines, vice-president; F. A. Stephenson, of the Denison companies, Mason City, treasurer, and C. B. Platt, of Van Meter, Ia., secretary. The committee on publicity consists of C. B. Platt, O. T. Denison and H. Rawson. The committee on legisla-

tion consists of J. B. McHose, O. C. Pixley and Geo. E. Winter.

The Illinois Clay Manufacturers' Association held its annual meeting January 19-21, at Champaign, Ill. The officers elected for the ensuing year are: Wm. Hammerschmidt, president; Geo. J. Walter, vice-president; Geo. H. Hartwell, secretary, and J. M. Mamer, treasurer. The publicity committee, as elected, consists of Geo. H. Hartwell, C. W. Lansing and D. C. Haeger. The legislative committee appointed consists of F. W. Butterworth, Danville; Wm. Hammerschmidt, Lombard; John W. Stipes, Champaign; D. V. Purington, Chicago, and Dr. A. L. Converse, Springfield.

The Wisconsin Clay Manufacturers' Association held its annual convention in Milwaukee, Wis., February 10-12. The officers of the association elected for the ensuing year are as follows: President, L. T. Crabtree, Crandon; vice-president, John Ringle, Wausau; treasurer, L. H. Cordes, Watertown; secretary, Oscar Wilson, Menomonie. The subsidiary committees of the association for the ensuing year are as follows: Legislative, S. Weidman, L. C. Whittet, L. T. Crabtree, Oscar Wilson; railway-rate committee, G. W. Kennedy, A. W. Hilker, F. Vogt; insurance, J. W. Hinkley, L. T. Crabtree, N. L. Meir, W. J. Craney, Oscar Wilson; publicity, C. W. Lansing, Oscar Wilson, F. Vogt. It was voted to hold the next annual convention in Milwaukee, in response to the hospitable invitation of the Citizens' Business League of that city.

The Minnesota Clay Association held its annual meeting in Minneapolis on February 12 at the Builders' Exchange. George W. Higgins, Minneapolis, Minn., was re-elected president, and R. P. Morton, Brickton, Minn., was again presented with the secretaryship. The next meeting will be held in Minneapolis April 14.

Texas Brick Makers Meet.

DALLAS, TEX., Feb. 14.—The fourth annual convention of the Texas Brick Manufacturers' Association was held in the auditorium of the Chamber of Commerce yesterday. The subjects of the program were in the hands of experts, and a vast amount of light was thrown by them on the various processes of making brick, and many members said they went away wiser than they came.

"Soft Mud vs. Dry Press for Common Brick," was the title of a paper by J. L. Butler, which was discussed by William Weatherford, J. D. Gledhill and W. M. Staniforth.

"Lignite as a Fuel for Water-Smoking and Burning Brick" was handled by W. M. Staniforth, and discussed by Mr. Wattelsky and J. F. Butler.

C. E. Achuff, of Kansas City, in an address went into the intricacies of conveying brick.

C. R. Sherill made an interesting talk on "What Can Be Done to Further the Interests of Our Organization?" Installing New Machinery?" was discussed at length by E. A. Westerfield.

The question, "Why Doesn't Texas Furnish Her Own Face Brick?" was answered by J. F. Butler.

"The Ultimate Effect of Increasing Brick Manufacturers in West Texas" was J. W. Green's topic.

"Liability Insurance" was discussed by E. Dick Slaughter.

The brickmakers had luncheon at the Southland Hotel at 12:30 p. m. E. Dick Slaughter responded to the toast, "Brick and Its Relations to Life," and C. R. Sherill to the toast, "Our Wives and Sweethearts."

Officers for the ensuing year were elected as follows: M. W. Staniforth, of Gainesville, president; W. E. Weatherford, of Ferris, first vice-president; S. B. Marshall, of Mesquite, second vice-president; J. M. Harry, of Dallas, who has been secretary of the association since its organization, was made permanent secretary.

The association adjourned at 6 p. m., to meet in Houston some time in June or July, this year.

The following members were in attendance: R. Bushel, Stamford; George Clark, Waco; O. H. Cross, Waco; C. A. Benton, Corsicana; T. G. Cole, Ferris; N. K. Craig, Abilene; E. A. Westerfield, Dallas; Mr. Wattelsky, Wattelsky; R. D. Harry, J. M. Harry, E. Dick Slaughter, Dallas; C. A. Achull, Kansas City; J. L. Butler, Austin; Dupont Lyon, Sherman; D. R. Boone, Oglesby; W. E. Weatherford, Ferris; Schuyler B. Marshall, Mesquite; J. D. Gledhill, Galion, Ohio; W. M. Staniforth, Gainesville; A. L. Branson, Marlin; C. R. Sherill, Corsicana; T. L. Jeffries, Palmer; Leon Keeble and A. S. Cobb, Fort Worth; Walter Bennett, Millsap; M. K. Sacks, Houston; J. R. Johnson and George R. Page, Laredo.

George Clark, of Waco, suggested that the association should make an effort to get a bill through the legislature, looking to the protection of material men. He said they ought to have a law giving them a lien on buildings for which they have furnished the brick until they got their pay. Mr. Clark was authorized to draw up a bill covering the matter and have it presented to the legislature.

Louisiana Brick Makers' Convention.

NEW ORLEANS, LA., Feb. 16.—The annual meeting of the Louisiana Brick Makers' Association, held in the St. Charles Hotel, was one of the most hopeful annual meetings that has been held this year. While there were speeches made that deplored the dull trade of the past few months, yet all believed that it would be better as this year advanced; that the outlook was to this end.

The election of officers resulted as follows: R. A. Kent, of Fluker, was re-elected president. Other officers are: Thomas Downey, of Baton Rouge, first vice-president; J. R. Abels, of Ponchatoula, second vice-president, and Frank Bethune, of New Orleans, secretary-treasurer.

President Kent addressed the members, thanking each one for the trust placed in him, and expressed a hope that the administration for the year 1909 would be as satisfactory as in the past. He appealed to the association to stand together on all questions pertaining to the industry and fight until the conditions changed to the benefit of the manufacturer.

The president selected the following members to serve on the executive committee: J. R. Abels, of Ponchatoula; Thomas Downey, of Baton Rouge; H. E. Buck, of Lake Charles; C. N. Adams, of Alexandria; Ernest M. Loeb, of New Orleans, and Fritz Salmen, of Slidell.

A feeling resolution was adopted on the death of Gus Godchaux, who was one of the most energetic members of the association.

Among the interesting papers were presented by R. A. Kent, C. N. Adams, J. May, of McComb; Mr. Wright, of Alexandria; J. R. Abels, of Ponchatoula; Mr. Murdock, of Fluker, and Thomas Downey, of Hammond.

Over the Border.

The seventh annual convention of the Canadian Clay Products Manufacturers was held at Brantford, Ont., on January 13-15.

The election of officers resulted as follows: President, H. Janes, Delaware; first vice-president, James Cornhill, Chatham; second vice-president, T. Mulligan, Ottawa; third vice-president, W. H. Freeborn, Brantford; secretary and treasurer, D. O. McKinnon, Toronto.

The executive committee for 1909 consists of the following gentlemen: J. B. Millar, Toronto; George Close, Stratford; George Crain, Beamville; O. Baird, Parkhill; S. J. Fox, M. P. P., Lindsay; W. McCredie, Lyons; D. Martin, Thamesville; James Irwin, Norwich; John Wardle, Blenheim; M. C. Odell, Ottawa, and J. W. Ball, Mimico.

A new ceramic school committee was appointed with the following membership: W. McCredie, Lyons; S. J. Fox, M. P. P., Lindsay; C. H. Bechtel, Waterloo; J. McCormack, M. P. P., Warwick; T. Mulligan, Ottawa; Anton Berg, Toronto; G. Moody, Highgate; J. S. McCannell, Toronto, and H. de Joannis, Waterloo.

Clay Manufacturers Organize.

The leading kaolin mine owners of Georgia and South Carolina assembled in the Chamber of Commerce, Augusta, Ga., Feb. 8, for the purpose of organizing. The following officers were elected: President, W. P. Martin, of Macon; secretary and treasurer, Cecil Morgan, of Macon.

The primary purpose of organization is to protect by mutual cooperation the interests of the clay men, particularly in the matter of freight rates.

About twenty well known kaolin mine owners, including all those in the immediate neighborhood of Augusta, were present.

The Machinery Men.

The National Association of Manufacturers of Clay-Working Appliances held its thirteenth annual meeting at the Seneca Hotel, Rochester, N. Y., on February 2. This was a very successful meeting, both from a business and an association point of view. The feature of this gathering was the reading of some very excellent papers. The following officers were elected: President, L. W. Penfield, Willoughby, O.; vice-president, H. J. Flood, Chicago, Ill.; secretary-treasurer, W. N. Durbin, Anderson, Ind.

SAND AND GRAVEL

The Design of Plants.

By J. C. BUCKBEE, C. E.

There seems to have been unfortunately less engineering thought devoted to the design and construction of stone crushing, gravel washing, screening and sand plants, and, in fact, all plants for manufacturing earthy materials into marketable products than to any other line of constructive or manufacturing work.

Architecture, electricity, power production, mill and shop work have each been given their due share of scientific thought and experimentation, until today each of these subjects is thoroughly understood and ample data is available to guide one in the design or construction of work or plants for any of these purposes. And there are many engineers who have specialized on these subjects that are available for those who desire to erect plants of this character.

It seems, however, that the popular impression that plants working rough earthy materials must necessarily be crude in all ways and that careful thought and consideration given the first mentioned subjects are wholly unnecessary; yet nothing could be farther from the truth, for the very nature of these plants produces conditions so much more severe in every way than those met with in any other line of work that only the best of construction, the most perfect of materials and the most carefully prepared designs will give satisfactory results.

To date the design of rock crushing, gravel washing and similar plants have been confined almost entirely to the offices of manufacturers of machinery, and although some considerable good work has been done by the machinery companies, they, necessarily, cannot afford to devote the time to the design of these plants that is requisite for working out each detail, so that the plant will have maximum efficiency in every part, and that the cost of building same will be minimum. Likewise, machinery companies cannot follow the construction of a plant from its inception to its completion, for were they to devote this amount of time to each plant that they supplied the machinery for, they could not make their business profitable. Again, it is only natural for machinery companies in designing a plant to favor themselves by way of adapting standard patterns with them to the plant in hand, where, in many cases, it would be much to the owner's advantage to have other apparatus for the same work, both from the point of first cost and from operating efficiency.

The entire matter of designing and constructing a plant therefore devolves itself into the owner acquiring a skilled engineering organization, who can work out his ideas, advise him as to what the best practice in other plants is, and decide with him what machinery and what construction are the most advantageous for the work to be prosecuted. By this procedure the design of a plant is in no way restricted and the efficiency can be made maximum, while the cost may be made a minimum.

Necessarily the design of every plant first takes its form in the shape of crude free-hand sketches, as a result of a careful discussion by the engineer, owner and others interested in the work to be performed by the plant, the local conditions and all other features influencing either the design or the cost of the plant. These sketches should then be placed in the hands of a competent draftsman to work out in detail under the guidance of a good engineer, and as these drawings progress they should be discussed by everyone interested.

In my own work I have found out that some of the most valuable suggestions made comes from the mechanics about a plant, as these are the fellows who have had the trouble with plants and machinery and who know more than anyone else where it is likely to occur again. While they are perhaps not very able at making sketches, or calculating stresses and strains, they do know where the troubles come from that shut a plant down, and since continued operation is the secret of a profitable operation, such points should receive the most careful attention. I have, therefore, made it a practice to call in all such men that were available during the time the drawings of a plant were being worked out and invited them to make any criticism that suggested itself in looking over the plans.

It is rarely, if ever, the case that the first general plan or scheme of a plant is the best one that can be devised, but this first one gives a starting

point, and as this is worked out, changes will suggest themselves to the minds of those discussing the plans and revisions can be made as these suggestions appear until finally a plant is arrived at which meets properly every condition.

I have in mind a large plant recently designed in which some fourteen or fifteen general layouts were made before one was finally arrived at of which no criticism could be made. This work, of course, required something like two months and the cost of same was perhaps at least \$1,500, but there was saved to the company putting up the plant at least \$100,000 in construction, while the operating efficiency of the plant was so greatly increased over that of the original scheme, which was regarded when first presented to be perfect, as to appear almost unbelievable.

It costs so little to make mistakes on paper, and so much to make them in materials during construction, that the utmost detail in preparing drawings is perhaps the most profitable investment that can be made. Taking, for instance, in frame construction, the waste in the discarded ends of timbers which are ordered without a carefully prepared lumber list, resulting from carefully prepared drawings, and the figures will be almost appalling. Yet this mistake occurs in almost every plant of timber construction that is put up, and it has been proven time and time again that with plans carefully prepared in the office in detail, taking into account the merchant lengths and sizes of timbers, that timber construction can be made to go together like structural steel, and that there will hardly be sufficient blocks resulting from the cutting of timbers left upon the completion of the job to start the first fire under the boilers.

Again, taking in the case of timber construction the bolts required. The common procedure is to leave most, if not nearly all, of the bolts required to be gotten out on the ground in accordance with the instructions of the foreman in charge. The result of this procedure is that the foreman usually has to guess pretty largely at what bolts are required from day to day and have these gotten out by hand labor, resulting not only in very expensive bolts, but in delays frequently, which are very expensive. On the other hand, it is obvious that had the drawings been worked out carefully and every bolt shown and a list made of them, these bolts could be gotten out by machinery in any good shop, and as they were required during the construction work they would always be available, the foreman thus being relieved of considerable work, the time for which he can devote to another purpose, the difference in the cost of hand-made and machine-made bolts saved and expensive delays avoided. This bolt question is, of course, a very small detail of a plant's cost, but it is these small details that in the aggregate run the cost of construction so high.

Again, taking the matter of building forms for concrete work. The construction of these is usually left to the man in charge of the job and he, in turn, must necessarily leave the detail construction pretty largely in the hands of the carpenters. A miscellaneous assortment of lumber is purchased for making these forms and the work proceeds, the carpenters figuring out from step to step the construction. Necessarily, with such procedure, much time is lost in constructing the forms on account of the foremen and carpenters having to spend a considerable portion of their time planning construction work, which should have all been done in the office, and a very great waste of lumber occurs since the material is of random sizes and lengths and must be cut to fit each case as it occurs. Granting that the forms will be satisfactory and will not bulge or distort on being filled with concrete, the process is obviously expensive and crude. On the other hand, had plans been prepared of these forms in the office, the lumber ordered in accordance with these plans, and these plans placed in the hands of carpenters, it is obvious that much faster work would result and there would be no waste of material; hence, a thoroughly satisfactory job in less time and at less cost.

Too much stress cannot be laid upon a careful preliminary survey of the building site, as not only the efficiency of the plant but the cost of construction are so greatly influenced by having a plant properly located, so that all facility will be gained in operation and a minimum amount of grading or filling, as the case may be, will be required during the construction period. Also, there is seldom a plant built which is not enlarged at a future time, and provision should always be made in the design of a plant for making additions, and the plant so arranged that these additions could be made without alterations in the existing structure, if possible, or, if not, with a minimum amount of such alterations, and also without affecting unduly the operation of the existing plant, in order that the plant may be modified at a minimum cost to meet future conditions so far as they can be foreseen.

If possible, the plans of a plant should be started a good many months in advance of the actual construction work, in order that there may be time for the engineers, as well as all others interested, to thoroughly revolve every point in its design in their minds and be sure, before a spadeful of earth is turned, or a stick of timber bought, that the plant is going to be of the most economical and efficient design for the work to be performed. Where plans have to be prepared hurriedly, there is always sure to be some oversight, which is not only expensive but is a source of dissatisfaction to everyone concerned, and these oversights can be almost entirely eliminated if ample time is allowed for preparing the plans.

It is also always best to have practically all of the plans prepared before any work whatsoever is started, in order that those in charge of the construction work may properly arrange to have the materials, such as cement, stone, timber, steel, etc., arrive on the ground as it is required, avoiding the hurry-up shipments and the frequently expensive delays due to not knowing a sufficient time in advance just what is going to be required.

The force of the points cited above will be apparent to anyone who has had experience in construction work upon a few moments' reflection, and it will probably appear to them like it does to the writer, strange that so little engineering thought or system has been given, or applied to a line of plants which involve the expenditure of such immense sums of money, and upon which the profitable investment of so much capital depends. Surely those engaged in this line of work cannot afford to allow their brothers in architecture, electricity, power production and other lines of engineering work to excel in either design or construction work, and with those who are financing such operations it must be apparent that considerable sums of money can be saved, the efficiency of the plant increased and the operating cost reduced to a minimum, by adopting systematic, modern methods from the inception to the completion of their enterprise.

Prosperous Sand Plant.

The plant of the Lincoln Sand and Gravel Company, one and one-half miles south of Lincoln, Ill., is reached either by the Interurban or over their own railroad, which connects with the Illinois Central and Chicago & Alton railroads within the city limits of Lincoln. This company owns over 300 acres of sand and gravel deposits and has installed the most improved and economical machinery for producing and placing the same on the market.

The local office of the company is in charge of V. O. Johnston, vice-president and general manager of the company; the home office is 35 Wade Building, Cleveland, Ohio, in charge of W. C. Jones, president and treasurer. Recently the company installed machinery and equipment which will materially improve and increase their output. A plant for producing crushed gravel is also being installed to meet the demand for this grade of material for concrete and street paving work.

New Sand Plant Opened Up.

The Elgin Torpedo Sand Company has been organized at Elgin, Ill., and is about to open one of the largest gravel pits in the Northwest, and will expend \$25,000 within the next few weeks in installing machinery in the pit located on the west banks of the Fox River, just north of Trout Park.

Surveyors for the Chicago & Northwestern railroad have been making a survey for switch tracks on the east bank of the river and for dump tracks in the pit. The total investment for opening this new property in Elgin will be close to \$50,000.

The property owned by Mr. Reed includes 250 acres, all gravel land. William Supernaw, formerly superintendent for the Richardson Gravel Company, at Algonquin, has been engaged as superintendent and is in charge of the operations.

A huge gravel washer of the latest construction is to be erected on the property within the next fortnight and a steam shovel has been ordered. Bids have been received for a cable which will stretch across the river from the pit to the loading station on the east side. This will be an endless chain, in fact, and will carry buckets at intervals, which will hold practically a wagon-load of gravel.

The Elgin Torpedo Sand Company has already received large orders for the gravel.

The Ohio River Sand and Gravel Company has been incorporated at Wheeling, W. Va., by C. S. Robinson, John Crockard, George V. Digby and others. The capital stock is \$100,000.

The Kickapoo Sand and Gravel Company, at Terre Haute, Ind., has increased its capital stock from \$15,000 to \$20,000. P. A. Stewart is president.

Side Talk

A Perfect Power Machine for Making Cement Drain Tile.

The Miracle Pressed Stone Company, Minneapolis, Minn., have perfected and added to their already extensive line a machine that will make perfect concrete drain tile at the very smallest possible cost.

They found it necessary to do a great deal of experimenting and studying to get a machine that would pack the concrete uniformly from end to end of the tile. It was necessary to construct a packer that would press the concrete out against the shell which forms the outside of the pipe, and at the same time shear off the concrete as the packer was passing through the shell, so that the inside would be smooth and uniform. These experiments have resulted in a packer that packs uniformly from end to end, and they are now in position to furnish the cement workers a machine that will not only make an absolutely perfect cement tile, but will make them at great speed and the minimum cost.

This machine is built up from the bottom of heavy gray iron castings, and is just as rigid and strong as a drill press.

The company is in position to furnish blueprints of up-to-date plants for curing tile by steam, and their large sales force makes it convenient to have a representative call on anyone interested, and explain to them in detail the cement tile business, proper arrangement of machinery and buildings, etc.

It is a safe assertion that fully 25 per cent of the counties in the United States will support a business of this kind and furnish a market for all the tile that can be manufactured on one machine, and those in position to handle a proposition of this kind will have no trouble in realizing very nearly 100 per cent on the investment, with good business enterprise.

Catalog No. 4 of the Keystone Driller Company, Beaver Falls, Pa., is devoted to a discussion of blast hole drilling with well machinery. This catalog will be of great interest to contractors and others interested in this kind of work. In the foreword of this booklet is the following statement:

"A few years since we suggested the use of machinery of this kind to some enterprising contractors and furnished them with trial drills. They were successful from the start and since then our trade in machinery adapted to this purpose has been increasing with leaps and bounds. To meet the demand we brought out machines especially designed and equipped for this class of work; for we were thoroughly aware that a drill may be fairly efficient for ordinary well drilling, while being too unwieldy, unsteady and slow for contractors' work.

"The purposes of these introductory pages is to make clear the plan and method of doing the work."

A copy of this booklet will be sent to anyone interested, by addressing the Keystone Driller Company, Beaver Falls, Pa.

The New York Lime Company, Natural Bridge, N. Y., has just issued a little illustrated booklet on their rotary kiln process of burning lime. This process is a patent owned and controlled by the company. With reference to this process the booklet contains the following statement:

"Until the advent of the rotary kiln all kilns were of the vertical, stationary type, being charged at the top and discharging intermittently at the bottom."

The booklet contains a description of the process and the advantages it has. A copy will be sent to those interested by addressing The New York Lime Company, Natural Bridge, N. Y.

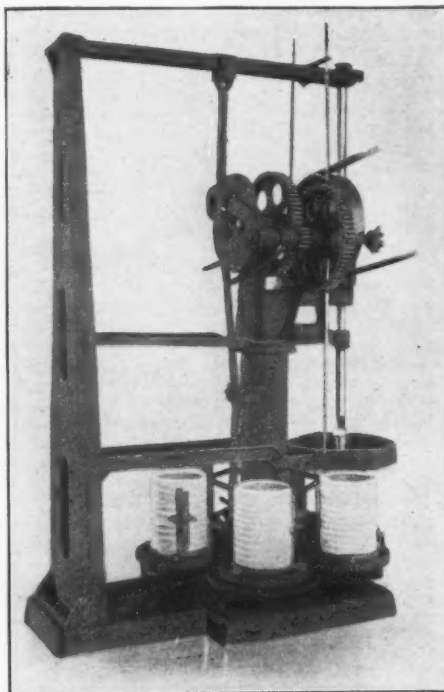
The Miles Manufacturing Company, manufacturers of concrete block machinery, Jackson, Mich., has issued a handsome new catalog, profuse with illustrations demonstrating the excellence of their machines.

An illustrated folder has just been received from the F. P. Smith Wire and Iron Works, Chicago, on the subject of that firm's patent concrete reinforcement. The company makes a patent spiral reinforcement for concrete columns, stirrups and shear bars for the resistance of shear in concrete beams, etc. The spiral column reinforcement is made of a continuous spiral of cold-drawn high or low carbon wire of high elastic limit. This spiral wire is wound around and securely clinched to vertical reinforcing bars. Any additional information about this method of reinforcement can be had by writing the makers.

Chas. Palliser is the author of two little books of interest to the cement trade: "Modern Cement Sidewalk Construction" and "Practical Concrete Block Making." Those little books have 74 pages of facts and illustrations on these subjects and they are neatly bound in cloth. These books should be read by all cement men interested in these subjects. Price 50 cents, postpaid. Address Rock Products, Chicago.

A booklet has been received from the International Sand-Lime Brick and Machinery Company, New York, on their international system and division method. This booklet explains the company's "division method" and silo system, as well as the machinery which is especially designed and built to meet the requirements of each individual plant and material. The company makes a specialty of designing factories and machinery. Those interested in this subject will find this handsomely illustrated booklet of great value.

The Peerless Brick Machine Company, Minneapolis, has just issued a very artistically illustrated catalog, telling of the virtues of the Peerless cement brick machine, with special reference to the new, improved 1909 machine. Of this machine the booklet says: "The Peerless, one-man cement brick machine is now in use in all parts of the United States and in many foreign countries, and has proven to be the most successful and economical brick machine in the world."



MIRACLE TILE MACHINE THAT PACKS.

Clinton Metallic Paint Company, Clinton, N. Y., has just sent out a little folder to the trade on the question of coloring cement walks. Under the heading, "A Matter for Consideration," occurs the following: "We have worked out this problem and proved our success in the past five years, with the result that every cement sidewalk man who has used our special sidewalk black, whether he had ever attempted to use coloring before or not, has pronounced it perfect."

Additional information can be had by writing the makers.

The Maumee Chemical Company, Toledo, O., has issued an announcement on the water-proofing of cement work with Maumee brand of water-proofing compound. In the announcement the following statement appears:

"Water-proofed cement construction is fast gaining favor. Prominent architects, engineers and municipal officials specify that all cement work must be made impervious to water; the benefits are many fold and pleasing, the extra cost normal, work always satisfactory. It is equally valuable in all classes of new cement work or for repairing old work, in water works plants, sewerage systems, curbs, gutters, sidewalks, or for plastering on new or old concrete work. The worth of Maumee water-proofing compound is easily demonstrated.

"Maumee compound does not change the strength, color, setting or hardness of concrete work."

With the gradual improvement of business conditions generally the demand for crushed stone is increasing to such an extent that many existing plants are largely increasing their equipment, and a number of new enterprises are preparing to supply crushed stone during the coming season. Among the companies which are either increasing their plants, or putting in new ones, the following have purchased the McCully crushers and auxiliary machinery manufactured by the Power and Mining Machinery Company, of Cudahy, Wis.:

Hiner Stone Company, Lima, O., complete crushing plant, consisting of one No. 6 and one No. 3 McCully crusher, with elevators, screens, etc.; Chicago & Northwestern Railway, crushing plant at Winona, Minn., consisting of one No. 7½ and one No. 5 McCully crusher, with elevators, screens, hoists, etc.; Brownell Improvement Company, Thornton, Ill., one special No. 10 McCully crusher, having opening 27 inches wide and one No. 6 McCully crusher, screens and elevators; Dolese & Shepard, Gary, Ill., complete crushing plant, consisting of one Mammoth McCully crusher, having 42-inch receiving opening, four sets 54x24 inches, Superior crushing rolls, ten revolving screens and three special pan conveyors; Illinois Stone Company, Chicago, Ill., addition to existing plant, consisting of one No. 10 McCully crusher; Granite Rock Company, Watsonville, Cal., one No. 7½ and one No. 3 McCully crusher, with elevators and screens; Woodruff & Pausch Stone Company, Columbus, O., one Mammoth McCully crusher, with 42-inch opening, revolving screens, etc.; Chas. Longnecker & Co., New York City, for the Stewart-Kerbaugh-Shanley Company, High Falls, N. Y., a portable rock crushing and concrete mixing plant, including one No. 4 and one No. 3 McCully crusher, one set of crushing rolls, elevator and screens; Carnegie Steel Company, Youngstown, O., one No. 5 McCully crusher.

The tendency towards the use of steam shovels in quarry work is clearly shown by the very large crushers which are now being installed, as shown by the above list. The development of these large crushers has been very rapid, as evidenced by the fact that up to the year 1906 the largest gyratory crusher built was the No. 9, having a receiving opening 21 inches wide.

The Sandusky Portland Cement Company, of Sandusky, O., is supplying its White Portland Cement for use in the following important contracts:

In mausoleum construction at Decatur and El Paso, Ill.; on the Studebaker private residence, South Bend, Ind.; for setting and pointing Vermont marble, Columbia Theater, St. Louis; for exterior ornamental work on Tripp's Dancing Academy, St. Louis; exclusively on the Italian Gardens, Cheeseman Park, Denver, Colo., for wainscoting in the New City hospital, St. Louis; Emigrant Savings Bank, New York City.

This company is furnishing its Medusa Waterproof Compound for the following important contracts:

One hundred cement cisterns being constructed by Board of Public Works, San Francisco, Cal.; in the roofs of the Southern Pacific Railway Company's hospital; to the Quartermaster's Department, U. S. A., Key West, Fla.; in the cement vaults for the Title Trust Company, Seattle, Wash.; exterior of plaster on the Perry apartments, Seattle, Wash.; in the Diamond Ice Company's plant, Seattle, Wash.

The St. Paul Cement Machinery Company, St. Paul, Minn., is sending out a very attractive booklet on the Ferguson Patent Cement Drain Tile Machine. This booklet is illustrated and contains some valuable information about this interesting machine.

With reference to this booklet, F. J. Pfaffner, president of the company, says: "The primary object of this book is to exploit the superior merits of the Ferguson patent cement drain tile machine, and our line of machinery, and incidentally we have taken the opportunity to give some facts on the cement products industry and give an insight into the recent remarkable growth and brilliant future of the cement drain tile business."

A copy of this little book can be had by writing the St. Paul Cement Machinery Company, at St. Paul.

The C. O. Bartlett & Snow Company, Cleveland, O., have just issued their catalog No. 28, which is a beautifully illustrated booklet describing that company's steamship fueling lighters, and coal and ash handling machinery. A few of the specialties made by this company are: Car hauls for all purposes; Greene self-dumping car hauls; continuous pan conveyors; complete gypsum plants; complete plaster mixing plants; crushers, pulverizers and automatic feeders; conveyors and elevators and labor saving devices.

A Letter From Abroad.

(Continued from Page 26.)

Much like the funeral procession I saw in a German city, where the entire crowd marched in the middle of the street, with the Lutheran Priest in full regimentals at the head, followed by some stalwart pall-bearers, carrying the corpse on a black velvet covered board, upon their shoulders, and when I fatuously asked: "Why on earth don't they use a hearse and carriages?" my guide properly squelched me with the reply: "For the very best reason in the world. They can't afford it."

The French lime and cement trade also has some exceedingly funny characteristics. In Paris I passed a crude little automobile pulling a rough little wagon holding about three barrels of lump lime, and was informed that French for lime is "chaux," (pronounced "show"), so that when you buy lime in Paris you get a chaux for your money, and send a chauffer it. (Who threw that brickbat!)

The French "ciment" is a hugely ridiculous package to one accustomed to our handy 95-pound bag. A great pile of it, thirty feet high, was being unloaded on the dock of the Seine in Paris, all open to the weather, of course, and protected only with tarpaulins. The bags were half barrels, about two hundred pounds each, long and narrow, the most infernally uncomfortable package to handle that evil genius could desire. The stack of it on the dock, piled pyramid shape, looked for all the world like a great mass of long, fat, yellow sausages, and the French dock-wallopers went swarming up the pile with only a toe-hold on each layer of "ciment," and with each a bag slung on their backs, grunting and sweating to the top! this seasick moment.

Whatever truth may lie at the bottom of that well, I believe it quite certain that we latter-day progressive Americans, have not yet learned everything to be learned about the best methods of handling cement, for I have the uncomfortable recollection of having seen handsomer and far more ornate cement building fronts in Germany and France than in our country; but that may have been purely a local viewpoint; for America is so vast that no single observer can do it justice. In building materials, as in almost everything else necessary to man's comfort, our own favored land is either already far ahead of all the rest of the world, or is rapidly crowding to the front. The common people of every nation look longingly towards America as the golden land of opportunity, where a man's career depends solely upon himself, where aristocracy and militarism, those twin foes of progress, remain powerless to chain him down in hopeless despair; and where no position is so high that the lowliest emigrant, or his child, may not aspire to it.

Let us "praise God in a fierce voice," that, above all things else, we are American citizens, proudest title in all the world, and that we belong to the Land of the Free, and that it belongs to us!

The caking weight on the bottom layers, and the breakage and waste in the pyramid, must have been simply fierce. Why is it that when these cruelly-overworked laborers come to America to work for you and I, and catch on to our splendid labor-saving devices that makes their jobs royal, gilt-edged, "snaps," compared to what they have been accustomed to, that they turn shirks, and become lazy, shiftless and no-account, generally? I give it up!

But I find I am giving you impressions only of a former trip, and this time I am going to the Land of the Dim Past. The "Caronia" is bound for Alexandria, and when I reach Cairo, I am going to write you what I can learn, or guess, about the construction of the Pyramids.

I remember reading sometime since that some learned scientist claimed that the Pyramids were not great blocks of stone, and that it would be a physical impossibility to construct them in that way; the probability being that they were made of desert sand, and the cement of thousands of years gone by. It is an interesting theory, and certainly a very plausible one, though I think it is generally scouted by the queer lot of deeply learned men called "Egyptologists." But don't think in advance that I am going to settle the question. In all probability I will know no more about it, after seeing the Pyramids than I do at present.

Leaf from a Builders' Supply Man's Bible.

Chapter XXIII.

By Richard Kind.

The Fool Material Man hath said in his heart "I will not read trade journals, or attend Association gatherings, I will run my business to suit myself."

2. Verily he spendeth long hours pondering upon the success of his competitors.

3. You can drive a man to think, but you can't make him over.

4. All men are liars—including some material men.

5. The best sales are those that are not made—sometimes.

6. Every man hath his own price except material men—they sell below cost.

7. Material men want little here below and even take pleasure in giving most of that away.

8. One-half of the material men don't know if the other half live.

9. The man that "cuts the price" isn't fooling anybody but himself—however the fellow "not guilty" will please throw the first rock.

10. The man who accumulates dollars in the material business has sense to begin with.

11. Look out for your customers, your competitors will look in for themselves.

12. Know thyself—but go your competitor one better, "get next to him."

13. Whosoever will may succeed—but only by the sweaty brow process or hunting for silvers while you rest.

14. Ability, application, acquaintance, these three, but the greatest of these is acquaintance.

15. Because you take up lots of room in a street car is no sign that you occupy any space in the estimation of your competitors.

16. Cultivate cheerfulness, because every time it slops over it creates an epidemic.

17. Don't assume wealth, because most of us would like to borrow a little money.

18. Every man that plays pool isn't a failure, but every man that's a failure plays pool.

19. All foods have advanced in price excepting food for thought, that can be had at the same old price.

20. When you see a fellow that can keep a cool head and a silent tongue without looking stupid—put it down he's a material man.

21. On the hinges of enthusiasm swings the success of every enterprise.

22. Make your competitor your best friend.

23. The faith you have in yourself determines the scope of your career and the extent of your business.

24. The key of success never gets into the hands of a sluggard, a drunkard or a pessimist.

The Little Rock Granite Brick Company.

LITTLE ROCK, ARK., Feb. 20.—The plant of the Little Rock Granite Brick Company, of this place, has a capacity of 17,000 brick per day. There are a number of buildings in this city that have been constructed of brick made at this plant. The brick is made of sand taken from the river and lime from the Geo. R. Case & Sons Lime Company plant at East Sylamore, Ark. The sand is pumped into barges and carried to the plant where it is loaded onto the bank by clam bucket. The lime is crushed in a Abbe Engineering Company crusher and mixed with the sand in the tube mill. From the tube mill it passes through a pug mill and into a silo. The Boyd press is used and the cylinders are the Abbe Engineering Company type. Some of the important buildings that have brick for this company's plant are the factory of the Little Rock Furniture Company, Majestic Theatre, Marion Hotel, Mann Building.

The factory of the Little Rock Furniture Company was destroyed by fire a few years ago and at that time the walls of clay brick completely disintegrated, while those of the sand lime remained intact and were part of the walls which are now standing. H. V. Barron is superintendent of the plant and has been with the company since its organization.

Gypsum Plant at Fort Dodge.

FORT DODGE, I.A., Feb. 7.—During a meeting of the officers and directors of the United States Gypsum Company at Chicago recently it was decided to re-open offices in Fort Dodge for the handling of business of the company in Iowa.

The general offices were here originally, but were later removed to Chicago and then brought back. Two years ago the general offices were again removed, and this time taken to Minneapolis, where they still are.

Change Office Location.

The American Gypsum Company, the plant of which is located east of Port Clinton, O., has found it to be advantageous to move its general office in Cleveland to this place. The company will occupy the new office building recently erected near the mills.

Elects Officers.

The Syracuse Wall Plaster Company, Syracuse, N. Y., recently elected the following officers for the ensuing year: President and treasurer, W. F. O'Connor; vice-president, Otto Johnson; secretary, Frank J. O'Brien.

Mill Office Burns.

The office building of the Grand Rapids Plaster Company, at the Eagle Mills, Grand Rapids, Mich., was totally destroyed by fire February 13. The loss is about \$1,000; fully covered by insurance.

Acquire Gypsum Deposits.

Representatives of the American Cement Plaster Company, Lawrence, Kas., closed a deal for 100 acres of land in the richest gypsum district of Webster County, Iowa, recently, and will erect a \$100,000 mill immediately with an estimated daily output of 250 tons of gypsum plaster.

Makes Extensive Repairs.

The Schuylkill Stone Company, Monocacy, Pa., recently shut down its extensive crusher plant for necessary repairs. They have booked many orders for April shipment.

Acquires Land for Quarry Purposes.

The Butler Stone Company, Sandusky, O., incorporated last August, has leased twenty-five and three-fourths acres of land situated on the east side of Hancock street for the purpose of opening up a stone quarry.

The company will take stone from the land acquired and will do a general quarrying business. It is expected that the work of opening up the quarry will be commenced in the spring.

Improvements in Crusher Plant.

The work has begun rebuilding the new crusher at the Kerr quarry in West Kankakee, Ill. T. A. Kerr and W. Clyde Dyer, the owners of the plant, will spend about \$10,000 in improvements, installing three crushers of different size, giving the quarry sufficient capacity to take care of almost any kind of a contract.

Closing Prosperous Year.

The Hancock Stone Company, Findlay, O., is just closing up a very prosperous year. This company had the contract of constructing about nine miles of stone pile in Paulding county, besides several other large contracts. During the year the company shipped nearly two thousand cars of stone.

We are in receipt of the American Artisan Advertising Manual which, as the name implies, treats on advertising as an established business and which is illustrated by actual advertisements which have appeared in the daily papers. The American Artisan publishers state that the price will be \$3.50.

An effort is being made by Frank Culver, of the Ohio and Binns Retarder Company, to secure, if possible, a change in the railway classification on gypsum products, including retarder. The Western Association has the matter under advisement at this time.

New Incorporations.

The National Cement Manufacturing Company has been incorporated at Toledo, O., with a capital stock of \$200,000 by Emil Habersack, L. G. Habersack, Glen V. Wagner, J. F. Sommers and H. E. Kelb.

The Garfield Cement Manufacturing Company, Wallington, Bergen County, New York, has been incorporated to manufacture a white Portland cement, waterproofing compounds, etc., with a capital stock of \$200,000. The incorporators are C. Mau, Verona; H. S. Crossman, Brooklyn, N. Y., and H. Mielek, New York City.

The Williamsburg Plaster Board Company has been incorporated at Brooklyn, N. Y., to manufacture plaster boards, with a capital of \$5,000. The incorporators are Harris Linestle, Kane Fredman and Louis Strimbaum, all of Brooklyn.

SOUTHWESTERN DEALERS MEET.

The Twenty-first Annual Meeting Held at Kansas City—Large Attendance from all Parts of the Southwest—Officers Elected for the Coming Year.

KANSAS CITY, Mo., Jan. 28.—The Southwestern Lumbermen's Association held its meeting in Kansas City, beginning January 28 and continued three days. There were about 1,800 people in attendance, the delegates coming from Missouri, Oklahoma, Kansas and Texas. This large attendance represented the cream of the retail lumber trade in the Southwest. The sessions were held in the Coliseum, which was fitted out for the use of the lumbermen on this occasion. There were many exhibitors present, and they also occupied part of the Coliseum, so that during the week of the convention this large structure was the height of activity.

OPENING SESSION.

The twenty-first annual convention of the Southwestern Lumber Association opened its first session at 3 o'clock Tuesday afternoon, with President John Halloren, of Ottawa, Kan., in the chair. President Halloren gave his annual address and spoke of the work that had been done by the association during the past year. He said that the association could congratulate itself on the splendid shape in which it was at this time, especially in view of the fact that this has been a very hard year for association work.

Secretary H. A. Gorsuch, of Kansas City, made his report, carefully covering the work of his office for the past year.

Other addresses given Tuesday afternoon were as follows: "In Search of the Okapi," by Don Warren, and "Association," by George Kieffer, of Coal Camp, Mo.

Treasurer J. H. Foresman read his report, which was accepted. The treasurer's report showed a very good balance on hand in the treasury January 1, 1909, which was a great encouragement to the members.

On Tuesday evening a theater party was given to the delegates and the ladies present, and this was largely attended. The actors had been fully posted by the local committee before the performance, so that the whole program was full of local take-offs, and it is needless to say that the evening was very enjoyable.

WEDNESDAY'S SESSION.

Nels Darling opened the Wednesday morning session at 11 o'clock with one of his speeches. Mr. Darling is full of good humor, which is all his own. He is very thoroughly posted on the mail order question from the standpoint of the lumbermen, and while his remarks were of a humorous character, at the same time they were full of good argument.

The code of ethics recently recommended by the American Lumber Trades Congress had its initial hearing at the Wednesday morning session and after considerable discussion it was referred to the committee on resolutions. This committee reported later, indorsing the code, but recommended a few changes of minor importance. Other questions touched upon by the resolution committee were as follows: The National Tariff Commission Congress, parcels post, demurrage, peddlers' license, amendment to interstate commerce law, deep waterways, forestry, good roads and cedar shingles.

The resolution committee was composed of J. R. Morehead, Howard Case, Howard J. Hurley, Kennett Hudson, T. M. Wherry, C. L. Burch and C. A. Buffum.

Met Saley read a very interesting paper on the subject of "Wake up." This paper was full of good advice to the lumberman and was very enthusiastically received.

One of the most interesting addresses of the day was that delivered by A. P. Hatchmann upon the subject, "Growth of the Portland Cement Industry."

Wednesday afternoon was given over to the regular program, which consisted of addresses by C. C. Trapp, J. L. Marshall and others.

Wednesday evening was given over to the entertainment of those present. The feature of the evening was a grand concatenation held at Elks' Hall, at which there were many prominent Hoo-Hoo present. The ladies were entertained at a minstrel show and vaudeville entertainment held at the convention hall. This was under the management of Nels Darling.

THURSDAY'S SESSION.

The principal business transacted at the Thursday session was the election of officers, which resulted as

follows: President, W. D. Frantz, Enid, Okla.; first vice-president, C. E. Matthews, Webb City, Mo.; second vice-president, Andrew Aitken, St. John, Kan.; treasurer, J. H. Foresman, Kansas City, Mo., and secretary, Harry A. Gorsuch, Kansas City, Mo.

After the election the new president was introduced and after a few remarks the business portion of the twenty-first annual convention came to a close.

In the evening a theater party was given at the Grand Opera House and many of the delegates and the ladies present remained for this attraction.

NOTES OF THE MEETING.

Registration was by credential card only and all persons not holding a card were compelled to have them properly vouched for to the credential committee.

A noonday luncheon was served during the time of the convention for the benefit of the Mercy Hospital, which is maintained for the free care of crippled children.

The handsome souvenir badge at the convention was presented with the compliments of the Ash Grove Lime and Portland Cement Company.

THE ATTENDANCE.

Armstrong, W. F., Darlington, Mo.
Axtell Lumber Co., Axtell, Kan.—T. A. Williams and wife.
Agency Lumber Co., Agency, Mo.—W. R. Hallard and wife.
Agar & Co., J. E., Fort Scott, Kan.—J. E. Agar and wife.
Aitken, A., Cimarron, Kas.—C. R. Rixon.
Alexander Lumber Co., Everast, Kas.—W. C. Alexander and wife.
Allen, L. O., Peckham, Okla.—L. O. Allen and wife.
Antrim-Todd Lumber Co., St. Louis, Mo.—Rush H. Todd, wife and daughter; J. A. Kinsula and wife.
Aufder Heide Bros., Bland, Mo.—G. F. Aufder Heide.
Alexander Lumber Co., Everest, Kas.—G. E. Sundgorer and wife; Leonardville, Kas., C. S. Johnson; C. C. Roop, Wakefield, Kan.; Frank Geiger, Havenville, Kas.
Acme Cement Plaster Co., St. Louis, Mo.—Frank Steeg.
Amdon, F. A., Alva, Okla.—W. A. Cooksey.
American Lumberman, Kansas City, Mo.—J. A. Joseph.
Arma Lumber Co., The Arma, Kas.—J. C. Preston.
American Cement Plaster Co., Lawrence, Kas.—Walter J. Ong, James Kean.
American Sash and Door Co., St. Joseph, Mo.—T. E. Moss, W. C. Shippee.
Alken, A., St. Joseph, Mo.—A. H. Alken.
Allred & Hill, Neodesha, Kas.—R. C. Rudrauff, F. W. Allred.
Badger Lumber Co., Richmond, Mo.—G. N. McGee and wife; Sugar Creek, Mo., L. Z. Will; Kingman, Kas., W. F. Murray.
Baker, Wm., Greenridge, Mo.—F. W. Baker and wife, Wm. Baker and wife.
Bailley Lumber Co., T. W., Princeton, Mo.—A. L. Crawford; Jamesport, Mo., Arthur G. Brown.
Barrett Mfg. Co., Kansas City, Mo.—F. A. Finneran.
Beloit Lumber & Coal Co., Beloit, Kan.—Glen G. White.
Bell & West Lumber Co., Cordell, Okla.—M. T. Bell.
Bennett, Sam, Ness City, Kan.
Big Jo Lumber Co., Guymore, Okla.—Harry G. Foster, E. M. McGregor; Artesian, N. M.; H. H. Collins.
Binger & Co., H. Wilber, Neb.—H. Binger.
Blaker Lumber & Grain Co., La Cygne, Kan.—C. W. Plumb; Pleasanton, Kan.; Alfred Blaker, B. F. Blaker, Mount City, Kan., Theo. P. Emmons; S. T. Green and wife, La Harpe, Kan.
Bon Ami Lumber Co., The Caney, Kan.—Jesse H. Wilson.
Brockett, B. L., Atchison, Kan.
Bond Bros. & Proctor, Meta, Mo.—A. J. Bond.
Brewer, H. W., Dresden, Mo.—L. E. Bacon, H. W. Brewer.
Brown, J. F., Jameson, Mo.
Brown, W. D., Marceline, Mo.—Fred W. Brown, W. D. Adams, J. W. Porter.
Buchanan, William, Texarkana, Ark.—A. H. Whetmarsh, Parsons, Kan.; W. L. Godley.
Brown Lumber Co., J. F., Lock Springs, Mo.—A. L. Terry, C. V. Terry, Mark Terry.
Browning, R. H., successor to W. E. Thomas, Hale, Mo.—R. H. Browning, E. O. Wheat.
Burlington Lumber Co., Burlington, Kan.
Bullen, H. B., Perry, Okla.—H. W. McKinney.
Bunceton Lumber Co., Bunceton, Mo.—W. W. Riley.
Bunceton Lumber Co., Bunceton, Mo.—W. W. Riley, day; Kansas City, Mo., J. A. Bowman, wife and daughter, F. P. Hunter, W. L. Hulet; Jasper, Mo., Jay Good and wife; Caney, Kan., O. P. Stevens; Cedarvale, Kan., J. B. Thompson and wife; Elsmore, Kan., Roy W. Cox and wife; Savonburg, Kan., L. J. Anderson; Vermillion, Kan., James C. Briggs; Council Grove, Kan., H. D. Keith; Chautauqua, Kan., F. W. Roswurm.
Burch Lumber Co., C. L., Parsons, Kan.—C. L. Burch.
Butt Lumber Co., C. A., Wynnewood, Okla.—E. O. Butt.
Burnet-Lewis Lumber Co., Indianapolis, Ind.—Willard H. Steln.
Billington Bros., Maud, Okla.—C. B. Billington.
Badger Lumber Co., Kansas City, Kan.—L. J. Gilles; Waldron, Kan., F. V. DeWitt and wife; Elgin, Okla., G. E. Williams and wife; Anthony, Kan., J. Harry Douglas and wife; Norborne, Mo., I. T. Boehm; Elmo, Kan., Ed. Paxon and wife; Durham, Kan., Heschel Lawson and wife; Argentine, Kan., W. A. Mack and wife; Faxon, Okla., S. M. Christian, wife and daughter; Conway Springs, Kan., W. B. Warren and wife; Arkansas City, Kan., R. R. Park, wife and mother; Hastings, Okla., Thos. Dunn and wife; Argonia, Kan., E. C. Ward, wife and daughter; Medicine Lodge, Kan., Albert Tamm and wife; Marlon, Kan., W. A. Blanchard; Tampa, Kan., E. F. Anderson.
Baldwin Lumber Co., The Baldwin, Kan.—A. Avala, A. B. May.
Barnes Lumber Yard, Barnes, Kan.—Geo. Shultz.

Butts Bros. Lumber Co., Muskogee, Okla.—J. A. Butts; Tulsa, Okla., W. R. Holmes.
Belcher-Stine Lumber Co., The Kansas City—Charles W. Green.
Bartels, H., Inman, Kas.
Buchanan, Wm., Kansas City, Mo.—E. G. McLean; St. Louis, Mo., Chas. E. Price.
Billington Bros., Seminole, Okla.—E. S. Billington and wife.
Burgner Bowman Lumber Co., Centralia, Kas.—F. O. Stephenson.
Brown Lumber Co., J. F., Lock Springs, Mo.—C. V. Terry and wife; A. L. Terry and wife.
Barrett Mfg. Co., St. Louis, Mo.—D. R. Bulfin.
Bullen, H. B., Stillwater, Okla.
Bricker & Son, W. W., Callao, Mo.—James M. Buckner.
Bonner Springs Lumber Co., Bonner Springs, Kas., H. L. Garrwood and wife.
Brown & Hedge, Holton, Kas.—W. E. Brown, wife and daughter; W. M. Hedge.
Bolen Hall & Co., Liberal, Kas.—O. L. Sherwood.
Byrd, James L., Charleston, Mo.
Byrne & Co., M. J., Dawson, Neb.—W. J. Byrne.
Baxter & Smith, Winfield, Ia.—Jno. A. Baxter.
Bolman Lumber Co., Leavenworth, Kas.—F. D. Bolman.
Bloomen & Vawel, Humansville, Mo.—J. W. Vawel and wife.
Benning & Whitsitt, Odessa, Mo.—Lee Benning and wife.
Brown, F. H., Lamar, Mo.
Brown & Savage, Maysville, Mo.—Geo. F. Brown, Z. H. Savage.
Builders' Supply Co., Bentonville, Ark.—Edward S. Wilks.
Benson Lumber Co., Howard, Kas.—J. A. Benson.
Cotton Lumber Co., Shelby, Mo.—R. L. Treadway, wife and daughter.
Certain Lumber Co., W. N., Fredonia, Kas.—A. C. Heiser, Osawatimie, Kas.; R. W. Allred; Neodesha, Kas., W. S. Pettit and wife.
Crowell Bros. Lumber Co., Attica, Kas.—S. H. B. Crowell and wife.
Central Sash & Door Co., Topeka, Kas.—J. W. Hulen.
Canton Saw Mill Co., Canton, Mo.—S. A. Bradshaw.
Calhoun-Putnam Lumber Co., Carthage, Mo.—H. W. Putnam.
Canfield Lumber Co., W. R., Holton, Kas.—W. R. Canfield.
Chatten, S. H., Bushton, Kas.—L. E. Hall and wife.
Chatten, S. H., Claffin, Kas.
Cooper Lumber Co., S. M., Parsons, Kas.—S. M. Cooper.
Crow, F. M., Lane, Kas.
Cain & Co., S., Wyandona, Mo.—W. H. Cain.
Coyne Lumber Co., Webb City, Mo.—T. F. Coyne, Ed Foster.
Critchfield & Sons, S. A., Geneseo, Kas.—S. A. Critchfield and wife.
Carterville Lumber Co., Carterville, Mo.—C. C. Howard.
Cross, James T. and wife, Moberly, Mo.
Corydon Lumber Co., Corydon, Iowa—A. J. Hayes.
Counterman, A. M., Sulphur Springs, Ark.
Church Lumber Co., Altoona, Kas.—F. H. Church.
Carthage Lumber Co., Carthage, Mo.—John H. West.
Conger, F. H., Yates Center, Kas.
Certain, T. L., New Albany, Kas.
Carlisle-Pinnell Lumber Co., Atchison, Kas.—A. L. Davis.
Cotter Lumber Co., Cotter, Ark.—Clarence E. Hopkins.
Central Lumber Co., Calhoun, Mo.—J. W. Brown, wife and daughter; Frankfort, Kas., W. J. Schiller; Chilhowee, Mo., John L. Wright; Windsor, Mo., G. T. B. Kalrich.
Chicago Lumber & Coal Co., St. Louis, Mo.—W. L. Henry; Woodston, Kas., O. C. Finch.
Clark & Bates Lumber Co., Kansas City, Mo.—A. M. Lamphar; Collinsville, Okla., Frank W. Humes; Dewey, Okla., F. E. Yale and wife.
Chicago Lumber Co., Excelsior Springs, Mo.—E. M. Bogen and wife; Topeka, Kas., Robert Pierce and wife.
Chicago Lumber & Coal Co., Stockton, Kas.—T. R. May and wife; Miltonville, Kas., C. A. Graham.
Chicago Lumber Co., Clarksdale, Mo.—A. A. Morton and wife.
Chicago Lumber & Coal Co., Iola, Kas.—C. B. Thompson and wife; Beloit, Kas., J. E. Cool and wife; Burr Oak, Kas., Oscar Johnson; Norton, Kas., A. J. Johnson; Almena, Kas., A. Van Allen; Cawker City, Kas., John H. Monahan.
Chatten Lumber Co., S. H., Kansas City—J. L. LeClere.
Chatten, S. H., Chase, Kas.—K. P. McFarland and wife; Protection, Kas., L. L. Hulet and wife.
Concordia Lumber Co., Concordia, Kas.—L. H. Simmons and wife.
Cain & Woodhouse, Lancaster, Kas.—L. J. Woodhouse.
Cole & Co., A. M., Fayetteville, Ark.—A. M. Cole.
Centropolis Lumber Co., Centropolis, Mo.—R. W. Hays and wife.
Cretcher Lumber Co., Scott City, Kas.—L. W. Cretcher.
Co-operative Lumber Co., Canton, Kas.—J. Walter.
Chatten Lumber Co., S. H., Ellinwood, Kas.—T. E. Morris and wife; Brockville, Kas., A. D. Lass and wife; Coons, H. D. Casslin.
Crowell & Sons, Geo. W. Alva, Okla.
Cadle Lumber Co., Ridgeway, Mo.—C. F. Franshaw and wife.
Cornellison Lumber Co., R. M., Reserve, Kas.—R. M. Cornellison.
Caddo Lumber Co., Fort Cobb, Okla.—H. G. Goble.
Casey, John, Zurich, Kas.
Central Coal & Coke Co., Oklahoma City, Okla.—Phil B. Moore and wife.
Clemans, E., Beagle, Kas.
Curtis & Gartside Co., Oklahoma City, Okla.—Roy Williams.
Central Lumber Co., Windsor, Mo.—J. C. Beedy and wife; Kensington, Kas., L. M. Noll.
Chanute Lumber Co., Chanute, Kas.—Milo T. Jones.
Chaplin, I. G., Lincoln, Neb.
Clark Lumber & Merc. Co., Beaumont, Kas.—M. B. Clark, wife and daughter.
Citizens' Lumber & Supply Co., Claffin, Kas.—J. F. Evans and wife.
Choate & Young, Clinton, Okla.—S. B. Grant, wife and son.
Coleman Lumber Co., M. S., Aurora, Mo.—M. S. Coleman and wife.
Crescent Lumber Co., Kansas City, Mo.—D. M. Todd.
Clark Lumber & Hdw. Co., J. N., Big Heart, Okla.—J. N. Clark and wife.
Chatten, S. H., Bushton, Kas., and wife.
Carson Lumber Co., Henryette, Okla.—W. R. Davis.
Dubach Lumber Co., F. B., Chanute, Kas.—Jas. A. Reed.
Deal Lumber Co., T. M., Sawyer, Kas.—J. E. White.

Douthitt, S. J., and wife, Pierce City, Mo.
 Dadds Lumber Co., Omaha, Neb.—M. N. Dadds.
 Dian Lumber Co., St. Louis, Mo.—Otto F. Pfeffer.
 Dickinson Lumber Co., Glen Elder, Kas.—John Dickinson, W. F. Smith.
 Doughty Lumber Co., The, Harper, Kas.—W. E. Doughty.
 Duensing, Geo., Concordia, Kas.—Ed A. Duensing.
 Dickson-Goodman Lumber Co., Mulberry, Kas. J. E. Vnsant and wife; Croweburg, Kas., Neal A. Brown and wife.
 Diamond Lumber Co., Billings, Mo.—Geo. Keast.
 Davis Lumber Co., A. L., Joplin, Mo.—A. L. Davis.
 Deal & Trent, Wichita, Kas.—W. H. Dillon.
 Dascomb-Daniels Lumber Co., Kansas City, Mo.—Chas. B. Daniels and wife, Edward A. Rose and wife; Frederick, Okla., C. F. Hector and wife; Kansas City, Mo., S. N. Daniels, F. N. Daniels and wife; Topeka, Kas., R. E. Fowler and wife; Eldorado, Okla., S. G. Ashby; Kansas City, F. H. Putler and wife.
 DeBolt, A. M., Oklahoma City, Okla., and wife.
 Dearing Lumber Co., A. C., Atlanta, Mo.—A. C. Dearing.
 Dougan, J. R., Dunavant, Kas.
 Dickason-Goodman Lumber Co., Kansas City, Mo.—W. E. Winn and wife.
 Dobyns, B. F., Shelby, Mo.
 Dalby & Co., H. A., Hopkins, Mo.—H. A. Dalby.
 Duncan Lumber Co., Buffalo, Kas.—W. L. Ward.
 Delany & Austin, Cowgill, Mo.—A. M. Delany and wife.
 Easley, W. D., Kansas City, Mo.
 Eberhart Lumber Co., C., Salina, Kas.—F. J. More.
 Emory, W. F., Flemington, Mo.
 Eberle & Co., C. F., Deer Creek, Okla.—C. F. Eberle.
 Elmore Lumber Co., Holsington, Kas.—M. C. Elmore and wife.
 Elbing Lumber & Coal Co., Elbing, Kas.—Geo. W. Williams.
 Evans Smith Lumber Co., Allen, Kas.—A. H. Smith, wife and daughter.
 Edwards & Nichols Lumber & Supply Co., Spearville, Kas.—H. C. Nichols and wife; G. E. Sheldon.
 Edgerton Lumber Co., Edgerton, Kas.—D. R. Hale.
 Emporia Lumber & Coal Co., Emporia, Kas.—Chas. G. West and wife.
 Easton Lumber Co., Easton, Mo.—J. W. Wright.
 Eckels, H. S., Seymour, Iowa.
 Enid Lumber Co., Enid, Okla.—C. S. McClellan.
 Edwards-Sohlberg Co., Little River, Kas.—Theo. C. Sohlberg and wife.
 Enterprise Lumber Co., Enterprise, Kas.—W. Mears.
 Ecks Lumber Yard, Allma, Kas.—C. J. Eck.
 Eatinger Lumber Co., Orient, Iowa—A. C. Eatinger.
 Evans, J. E., Emporia, Kas.
 Forest Lumber Co., Broken Arrow, Okla.—Ed Dalton and wife; Joplin, Mo., A. J. Burch and wife; Aurora, Mo., J. A. Berry and wife; Mulberry, Kas., T. F. Woods, wife and daughter; Webb City, Mo., H. K. Schars; Kansas City, Mo., A. T. Hemingway and wife; Wm. F. Grovey, Paul Donewhy, Geo. A. Seeley.
 Fordyce Lumber Co., Fordyce, Ark.—John H. Byrnes.
 Freeport Lumber Co., Freeport, Kas.—R. Whedham.
 Fisher Lumber & Coal Co., E. D., Jewell City, Kas.—E. D. Fisher.
 Fair Lumber Co., D. J., Hutchinson, Kas.—H. C. Fortua and father.
 Force, F. C., Wheaton, Kas.
 Foster-Munger Co., The, Chicago—H. F. Wothe.
 Ferguson, William M., Tipton, Mo.—H. C. Thomas.
 Ferguson Lumber Co., W. T., St. Louis, Mo.—Thos. C. Whitmarsh; Salina, Kas., C. D. Adams.
 Fowler & Co., Geo., Kansas City—C. E. Sharp.
 Francis, T. J., Severance, Kas.
 Fidelity Lumber & Supply Co., St. Louis, Mo.—A. F. Pendergrass.
 Fullerton-Stewart Lumber Co., Kelfer, Okla.—R. O. Bailey; Okmulgee, Okla., W. A. Stuart.
 Fifer-S. Lumber Co., L. R., Topeka, Kas.—L. R. Fifer.
 Florence & Blackwell Lumber Co., Lamont, Mo.—Leo A. McBrian and wife.
 Foster Lumber Co., Oberlin, Kas.—E. B. Heinecke and wife; Republican, Neb., T. F. Noble; Goodland, Kas., Thos. R. Townsend and wife; Kansas City, Mo., W. J. Tucker; Courtland, Kas., O. H. Kline and wife; McDonald, Kas.; G. L. Pierson; Tonkawa, Okla., E. E. Newland.
 Forest Lumber Co., Catonsville, Okla.—Henry C. Whalin.
 Fagen Bros., Stover, Mo.—O. I. Fagen, Peter C. Ehlers.
 Fayette Lumber Co., Fayette, Mo.—F. H. Smith.
 Fehring & Co., Wentworth, Mo.—Henry Fehring.
 France, H. C., Oskaloosa, Iowa.
 Forest Lumber Co., Afton, Okla.—R. G. Hodgson and wife.
 Farley & Lacher Mfg. Co., Dubuque, Iowa—Dan H. Devins and wife, Arthur McQuig.
 Fullerton Lumber Co., Mounds, Okla.—P. J. Brien.
 Fredonia Lumber Co., Fredonia, Kas.—D. W. Schoolcraft.
 Frye Mfg. Co., Wm. G., St. Louis, Mo.—Harry E. Moore.
 Fullington, J. S., Idana, Kas.—J. S. Fullington and wife.
 Friend, C. E., Soldier, Kas., and wife.
 Frank, J. C., and wife, Madison, Mo.; Holliday, Mo., E. W. Hobson.
 Fleming, F. A., Browning, Mo., and wife.
 Farmers Lumber & Coal Co., Hill City, Kas.—A. N. Hutchinson, wife and daughter; D. C. Greenwood.
 Frost-Johnson Lumber Co., St. Louis, Mo.—H. G. Buckner and wife.
 Garrett, A. H., Clearmont, Mo.
 Grommer & Co., Stanberry, Mo.—S. B. Sweet.
 Gloyd Lumber Co., Dewey, Okla.—H. G. Hering and wife; Tyro, Kas., C. E. Winkler.
 Gordon, John A. C., Wathena, Kas.
 Garth & Stine, Seffendville, Kas.—B. M. Garth.
 Glen Lumber Co., Falls, Okla.—Byron Dixon and wife; Tryon, Okla., J. R. Barnes and wife; Kansas City, Mo., D. D. Dodd; Carney, Okla., Charles E. Wilcox; Kansas City, Mo., F. Gunter and wife, G. W. Gunter, F. Paragino, J. B. Gary and sister, T. E. Tregemba, wife and sister, George W. Wilson and wife; Burlington, Kas., O. A. Merrill and wife; Cherryvale, Kas., Fred Perkins and wife.
 Gloyd Lumber Co., Independence, Kas.—D. L. McCarty; Stigler, Okla., H. J. Stewart.
 Gloyd, S. M., Oklahoma City, Okla.—John W. Jacobs.
 Grubb, Hough & Co., Wetmore, Kas.—Geo. Grubb and sister.
 Gaunt Lumber Co., Alton, Kas.—F. W. Gaunt.
 Gates Lumber Co., Wilman, Ark.—J. H. Haley.
 Great Western Lumber Co., Kansas City, Mo.
 Glattly, Wm., Afton, Iowa, and wife.

Gardner Lumber Co., Gardner, Kas.—J. H. Osborne and wife.
 Gabriel & Co., D. T., Topeka, Kas.—D. T. Gabriel and daughter; Denison, Kas., G. M. Gabriel.
 Graham, A., Falls City, Neb.
 Grayson McLeod Lumber Co., St. Louis, Mo.—A. G. Mucke.
 Gentry, F. J., Pond Creek, Okla., and wife.
 Gray Terrell Lumber Co., Chanute, Kas.—J. L. Terrell.
 Gibbons Bros., Edina, Mo.—J. R. Gibbons and wife.
 Gower Lumber Co., The, Gower, Mo.—Clyde J. Bowlin and sister; R. S. Bowlin and wife.
 Gillette & Nicholson, Topeka, Kas.—L. A. Gillette and wife.
 Golden City Lumber & Hdw. Co., Golden City, Mo.—C. W. Sheppard.
 Green Top Lumber Co., Green Top, Mo.—Burr L. Eastin.
 Getchel & Co., M. F., Williamsburg, Kas.—M. F. Getchel and wife.
 Goodjohn Sash & Door Co., The, Leavenworth, Kas.—Amos Goodjohn.
 Home Lumber Co., Randolph, Kas.—Wallace Goff; White City, Kas., Frank Knudson.
 Heath & Sons, R. D., Wilson, Kas.—C. V. Heath.
 Hering, Jr., Louis, Blackburn, Mo.
 Herrmann, Henry, Bosworth, Mo.
 Homley Lumber Co., Herrington, Kas.—P. H. Popp.
 Heyling, Otto, Rhineland, Mo.
 Horton Lumber Co., H. P., Scranton, Kas.—Thos. Cairns.
 Hamson, E. W., Eureka, Kas.
 Harrison & Robinson, Hardin, Mo.—W. T. Robinson and wife.
 Hays, Geo. W., Clyde, Kas., wife and daughter.
 Harlan Lumber Co., J. M., Indianola, Iowa—C. G. Maxwell.
 Hutchinson Lumber & P. M. Co., Hutchinson, Kas.—James St. John.
 Harris Anderson Lumber Co., Alceville, Kas.—E. Winn; Le Roy, Kas., A. D. Finley and wife.
 Hull, L. C., Baring, Mo.
 Hill Lumber Co., A. H., Seymour, Mo.—T. G. Anthony.
 Hufbauer & Son, Newkirk, Okla.—J. F. Hufbauer.
 Hanson Lumber Co., S., Shenandoah, Iowa—A. E. Anderson.
 Harris & Son, J. R., Northboro, Iowa—M. C. Harris.
 Howell, Jas. W., and wife, Morganville, Kas.
 Harrington, Cummings, Blaine, Kas.—Wm. Harrington.
 Harris & Cole Bros., Cedar Falls, Iowa—W. A. Bennett.
 Hartman Bros., Alma, Mo.—H. C. Hartman, W. F. Hartman.
 Home Lumber & Supply Co., Ashland, Mo.—C. E. Gilchert.
 Hawkeye Lumber Co., St. Joseph, Mo.—I. L. Funk and wife.
 Houston Lumber Co., H. R., Lamar, Mo.—D. B. Houston and wife.
 Harris, Milo R., Ottawa, Kas.
 Hayes & Jace, Salisbury, Mo.—Wm. Owenby, Jessie Jace, E. J. Hayes, Jr.
 Holsington Lumber Co., Holsington, Kas.—H. C. Wildkren.
 Howley Lumber Co., Herrington, Kas.—W. N. Howley.
 Harrington, H., North English, Iowa.
 Harris Anderson Lumber Co., Bucyrus, Kas.—T. H. Urton.
 Hurley Lumber Co., R. J., Adrian, Mo.—E. O. Twyman and wife; Clinton, Mo., P. A. Cowan; Deepwater, Mo., H. K. Smith; Osceola, Mo., J. R. Nuckles; Neosho, Mo., F. H. Kneisley and wife; Blairtown, Mo., A. H. Lander; Harrisonville, Mo., Don Kennedy; Rich Hill, Mo., L. F. Cadwell and wife.
 Home Lumber Co., Clay Center, Kas.—C. L. Slade and wife; Highland, Kas., W. T. Bauer and wife; Nevada, Mo., Jno. L. Hyden and wife.
 Houston Lumber Co., Eureka, Kas.—A. C. Houston.
 Hensley & Brosius, Kincaid, Kas.—O. C. Brosius and wife.
 Houston Lumber Co., A. C., Wichita, Kas.—L. L. Woods and wife.
 Houston, A. C., Wichita, Kas.—M. R. Clark and wife.
 Hamilton, A. P., Fredonia, Kas.—J. E. Bogart and wife.
 Hunter, A. O., Norwich, Kas.—J. E. Jones, Jr.
 Hannibal Lime Co., Hannibal, Mo.—J. E. Jones, Jr.
 Heyling, A. & B., Glasgow, Mo.—Adolph Heyling.
 Hulbert, C. F., Fontanelle, Ia.
 Hawkeye Lumber Co., St. Joseph, Mo.—H. H. Hutchinson and wife.
 Harris Anderson Lumber Co., Bucyrus, Kas.—J. T. Anderson and wife.
 Hollway Bros., Rockport, Mo.—P. W. Hollway.
 Handley, A. M. I., Edgerton, Mo., and wife.
 Harris Lumber Co., C. J., St. Louis, Mo.—C. J. Harris and wife; Moberly, Mo., R. S. Lewis and wife.
 Heath & Sons, R. D., Beloit, Kas.—Frank M. Heath and wife.
 Hogg-Harris Lumber Co., St. Louis, Mo.—M. E. Botts and sister.
 Houston Lumber Co., Eureka, Kas.—Ed Crans, wife and son.
 Humburg Lumber Co., The, Bison and Timken, Kas.—Fred Humburg.
 Hodges Bros., Olathe, Kas.—Frank Hodges.
 Industrial Lumber Co., Wichita, Kas.—O. N. Smith, F. N. Shotwell.
 Isley Lumber Co., O. C., Cimarron, Kas.
 Ives-Hartley Lumber Co., Baldwin, Kas.—F. M. Hartley and wife, Charles P. Ives.
 Imse Schillings S. & D. Co., St. Louis, Mo.—T. H. Newell.
 Junction City Lumber Co., Junction City, Kas.—H. P. Ewalt.
 Johnson & Son, Erie, Kas.—F. A. Johnson.
 Jasper Lumber Co., Newton, Iowa—W. H. Jasper.
 Jones & Wilhite, Green Castle, Mo.—J. H. Wilhite.
 Jones & Co., A. E., Green City, Mo.—A. E. Jones.
 Jackson Sherry & Co., Hopkins, Mo.—C. L. Adams.
 Johnson, John N., Oskaloosa, Kas.
 Jones & Son, J. C., Pleasant Hill, Mo.—Claude Headen; Strasburg, Mo., Chas. R. Collins.
 Johnson Lumber Co., Kewanee, Ill.—T. H. Johnson.
 Jefferson City Lumber Co., Jefferson City, Mo.—E. Holtschneider.
 Klein, Paul, Iola, Kas.
 Kozel Lumber & V. Co., Morrowville, Kas.—N. H. Kozel, I. Pugmek.
 Kirkwood Lumber Co., Robt. G., White Water, Kas.—Robert K. Norris.
 Koelzer Lumber Co., J. P., Seneca, Kas.—J. P. Koelzer.
 Kimball Lumber Co., B. G., Stanberry, Mo.—J. D. Halstead, Ambrose E. Halstead.
 Kirkwood Lumber Co., B. G., Wichita, Kas.—R. G. Kirkwood.

Knox & Downs, Belle Plain, Kas.—C. Knox.
 Kingman, John, McLouth, Kas.
 Kansas Lumber Co., The, Lewis, Kas.—E. C. Cady; Hutchinson, Kas., S. M. Johns.
 Kelfer Lumber Co., Geo., Cole Camp, Mo.—Geo. Kelfer and wife.
 Koeting, M., Bonnat's Mill, Mo.
 Keith Lumber Co., W. D., W. D. Keith.
 Kirby Lumber Co., Oklahoma City, Okla.—Jas. M. Wheeler.
 Kiowa Lumber Co., The, Kiowa, Kas.—H. E. Leonhardt.
 Keytesville Lumber Co., Keytesville, Mo.—A. F. Arrington.
 Krebs Lumber Co., Krebs, Okla.—H. E. Seamans.
 Long-Bell Lumber Co., Wichita, Kas.—G. N. Morey and wife; Altera, Okla., V. T. Williamson; Renfrow, Okla., Will F. Rapp, wife and daughter; Baxter Springs, Kas., James L. Masters and wife; Columbus, Kas., E. D. Whiteside and wife; Kremlin, Okla., S. C. Crail; O'Keene, Okla., A. C. Ruth; Kansas City, Chas. W. Goodrum; Independence, Kas., Don R. Bodwell; Wier City, Kas., E. L. Gitting.
 Lucas Lumber Co., F. E., Cherokee, Kas.—F. E. Lucas, wife and daughter.
 Leldigh & Havens Lumber Co., Kansas City, Mo.—C. E. Hamilton, Edgar Thompson, A. G. Bainhart; Niles, Kas., E. B. Stokely; Kipp, Kas., Fred K. Agnew; Bonnington, Kas., S. J. Swanson and wife; Delphos, Kas., N. G. Swanson; Salina, Kas., W. F. Grasser; Solomon, Kas., Wm. Dewese; Minneapolis, Kas., Alf. Midgley; Culver, Kas., N. W. Busby; Lincoln, Kas., W. R. Beaumont and wife; Carterville, Mo., H. C. Benson and wife; Spearville, Kas., E. U. Carter.
 Logan Lumber Co., Logan, Kas.—W. M. Dunning, wife and son.
 Leonard, H. C., Girard, Kas.
 Lake Superior Lumber Co., Kanapolis, Kas.—O. C. Brown; Edsworth, Kas., W. H. Fishburn.
 Lund, C. H., Waukegan, Okla.
 Latham & Co., F. M., Udall, Kas.—F. M. Latham and wife.
 Long Lumber Co., R. W., El Dorado, Kas.—C. W. Stratford and wife.
 Luch, J. M., Greenwood, Mo.
 Leldigh, Houston & Co., Thayer, Kas.—W. H. Post.
 La Monte Lumber Co., La Monte, Mo.—J. H. Clark.
 L'Aquila Lumber Co., Marianna, Ark.—John H. Ryan.
 Larson, Henry, Smoian, Kas.
 Lucas & Co., C. F., Robinson, Kas.—C. F. Lucas and wife.
 Lemon Lumber Co., The, H. C., Dearing, Kas.—J. M. Lemon.
 Ludas Lumber Co., Rush Center, Kas.—E. H. Strickland; Larned, Kas., C. E. Clatten.
 Lee Lumber Co., R., Dawn, Mo.—D. F. Rowlette; Ludlow, Mo., W. R. Lee, R. J. Lee, E. A. Dusenbury; Mooresville, Mo., G. M. Fareman.
 Long Island Lumber Co., Long Island, Kas.—F. V. Whitcomb and wife.
 Looney & Bliss Lumber Co., Sedalia, Mo.—Lee Looney; George Bliss.
 Lewis Lumber Co., Lyndon, Kas.—H. L. Rand and wife, H. C. Lewis and wife, E. Deeds and sister; Nevada, Mo., Rudolph Jackson and wife; Butler, Mo., R. F. Moore and wife.
 Lum & Sons, Geo., Verdon, Neb.—Clyde V. Lum.
 Lum & Co., M. H., Dodge City, Kas.—M. H. Lum, F. C. Lum.
 Lowe, Wm., Warrensburg, Mo.
 Lingswiler, Ed., Richland, Mo.
 Latto & Son, John, Enterprise, Kas.—O. V. Latto.
 Lyons Lumber Co., Lyons, Kas.—M. F. Anawalt.
 Lyon Cypress Lumber Co., Ottumwa, Iowa—A. J. Packard; Chicago, Allen E. Hunt.
 Lorraine Bldg., Material & Furniture Co., Lorraine, Kas.—C. F. Hinrichs.
 Leeds Lumber Co., Leeds, Mo.—J. W. Snodgrass.
 Lawrence Lumber Co., Lawrence, Kas.—R. B. Beery.
 Lynde, John H., Fortescue, Mo.—John H. Lynde.
 Lentz, C. A., Whiting, Kas.—C. A. Lentz and wife.
 McAlister Lumber Co., Columbia, Mo.—C. B. Bowling and wife, C. C. Bowling.
 McNeal-Parcher Lumber Co., Maryville, Mo.—Bert R. Cook and wife, Chas. L. Parcher and wife.
 McLaughlin-Fana Lumber Co., Pawhuska, Okla.—F. M. Fana.
 McCurdy, H. L., Stafford, Kas.—Riley Brown.
 Meyer & Son D. C., Palmer, Kas.—D. C. Meyer, Herman Meyer.
 Miners Lumber Co., Bonne Terre, Mo.—W. Benton Massey.
 Meyer Lumber Co., J. F., Clarksville, Mo.—J. F. Meyer.
 Morgan & Burton, Corydon, Iowa—A. F. Burton.
 Miller, Geck & Miller, Seneca, Mo.—R. C. Geck.
 Missouri Lumber & Land Exchange, Kansas City—W. F. McKinney.
 Metz Lumber Co., J. W., Wichita, Kas.—J. W. Metz and wife, L. A. Hecken; Coffeyville, Kas., E. T. Conklin.
 Moist Lumber Co., Springfield, Mo.
 Miller, L. F., Joplin, Mo.
 McCormick, James L., Chouteau, Okla.
 Muskogee Lumber Co., Muskogee, Okla.—V. V. Morgan; Pawnee, Okla., F. D. Trekel and wife.
 Moyes & Corder, Union Star, Mo.—Chas. Corder.
 Menzel Lumber Co., W. H., California, Mo.—W. H. Menzel and daughter.
 Mehler & Reinhardt Lumber Co., Bazine, Kas.—E. M. Crosson.
 Miner & Fries, Hlythedale, Mo.—Geo. E. Mudgett.
 Marbie Head Lime Co., Kansas City, Mo.—W. J. Stewart, A. Newton.
 Milne Lumber Co., St. Louis, Mo.—W. W. Milne.
 Moon-Elliott Lumber Co., Parkville, Mo.—R. B. Elliott and wife.
 Missouri Lumber Co., Oklahoma—J. F. Brown and wife.
 Midland Lumber Co., Pratt, Kas.—A. J. Jones, J. J. Roll.
 Marshall Lumber Co., Blackwater, Okla.—F. M. Marshall and wife.
 Miller, J. O., and wife, Skidmore, Mo.
 Miller Lumber Co., W. I., Topeka, Kas.—W. I. Miller.
 Moundridge Lumber Co., Moundridge, Kas.—E. S. Ruth.
 Miner & Fries, Ridgeway, Mo.—W. A. Miner, E. S. Miner; King City, Mo., H. W. Gordon.
 Miner, Jr., E. S., Ridgeway, Mo.
 Matthews Lumber Co., C. E., Webb City, Mo.—Chas. Bonsteel and wife.
 Montgomery Bros., Bolckow, Mo.—Fred Montgomery.
 Minnetonka Lumber Co., Muskogee, Okla.—C. A. Samson and wife; Oklahoma City, Okla., J. E. Marra.

McLenn Lumber Co., B. F., Hunnewell, Kas.—A. H. Hill.
 Mitchell, C. A., Granby, Mo.—H. C. Dillehay, F. L. Re-pass.
 Major & Co., R. H., Smithville, Mo.—R. H. Major.
 Major Bros., Kearney, Mo.—W. W. Major; Kearney, Mo., S. G. Major.
 Nebraska Bridge & Supply Co., Omaha, Neb.—Geo. Rasmussen, W. L. Carey.
 Newman Lumber Co., J. J., Kansas City—R. L. Bunch.
 Nordeen Lumber Co., Dwight, Kan.—Chas. W. Nordeen.
 North Missouri Lumber Co., Hannibal, Mo.—J. W. Nicely; Chillicothe, Mo., John Atwell.
 Northwestern Arkansas Lumber Co., Fayetteville, Ark.—L. R. Putman.
 Netawaka Lumber Co., Netawaka, Kas.—J. M. Greer and wife.
 Osage Lumber Co., Fairfax, Okla.—M. A. Schweder and wife, C. E. Rile and wife; Lyndon, Kas., C. A. Fleming.
 Oakley Lumber Co., Oakley, Kas.—C. P. Lundgreen and wife.
 O'Neill Lumber Co., St. Louis, Mo.—John T. Hurley; Republic, Mo., Sherman Robertson and wife.
 Ozark White Lime Co., Fayetteville, Ark.—F. O. Guiley, C. W. Ingram.
 Owl Bayou Cypress Co., Sreator, La.—John A. Bruce.
 Oettinger Lumber Co., Alma, Kas.—Wm. Oettinger.
 Otis Lumber & Grain Co., Otis, Kas.—Adolph Humburg.
 O'Malley Lumber Co., Albany, Mo.—J. B. O'Malley and wife.
 Oak Hill Lumber Co., Oak Hill, Kas.—Leon Malcolm.
 Ott & Son, Philipp, Jefferson City, Mo.—Dr. Ott and wife.
 Orange & Son, John J., La Grange, Mo.—John J. Orange, Jr.
 Olivet Elevator & Lumber Co., Olivet, Kas.—E. H. Elmore and wife.
 Ochelata Lumber Co., Ochelata, Okla.—L. W. Servey.
 Powers & Son, O. G., Paris, Mo.—M. B. Powers and wife.
 Priole & Hammond, Baseord, Kas.—Wm. Hammond.
 Paine Lumber Co., Oshkosh, Wis., and Kansas City, Mo.—Earl Kenyon.
 Pickering Lumber Yard, Pickering, Mo.—W. M. Hall; W. R. St. Louis, H. S. McGavie.
 Perrygahn & Starlin Lumber Co., Rea and Glinford, Mo.—E. C. Starlin and wife.
 Pine Tree Lumber Co., Oklahoma City, Okla.—B. H. Miller.
 Pattonsburg Lumber Co., Pattonsburg, Mo.—Geo. N. Gromer.
 Prunty Lumber Co., J. L., Wamego, Kas.—W. A. Prunty.
 Pattle & Turrell Lumber Co., Harris, Kas.—J. H. Turrell and wife.
 Protection Lumber & Supply Co., Protection, Kas.—C. R. Truby.
 Pauls Lumber Co., Washington, Iowa—H. A. Pauls.
 Purcell Lumber Co., Purcell, Okla.—J. M. Thompson.
 Patterson, J. T., Houstonia, Mo.
 Plainville Lumber Co., Plainville, Kas.—Clinton L. Scott and wife.
 Paragould Lumber & Supply Co., Paragould, Ark.—Howard Martin.
 Platt, E. F., Moore, Okla.—L. F. Platt.
 Pond & Co., W. M., Wichita, Kas.—C. W. Miles.
 Pioneer Lumber Co., Springfield, Ark.—E. C. Prichard.
 Philpot & Tanner, Humboldt, Neb.—A. C. Tanner and wife.
 Proctor, J. R., Olean, Mo.—Wife and sister.
 Patton & Son, M. B.—J. S. Patton, M. B. Patton and son.
 Powell & Co., L. H., Wichita, Kas.—L. H. Powell.
 Paxico Lumber Co., Paxico, Kas.—Wm. Muckenthaler.
 Rice & Johns Lumber Co., Linn, Kas.—E. A. Hood; Downs, Kas., Ralph Rhode and wife; Solomon, Kas., John Thomas and wife.
 Rosendale Lumber Co., Rosendale, Mo.—W. B. Wood.
 Renfrew & Co., H. N., Mt. Hope, Kas.—H. N. Renfrew.
 Roanoke Lumber Co., Excelsior Springs, Mo.—William Anderson; Windsor, Mo., Sol Anderson.
 Robinson, Davis Lumber Co., Fairview, Mo.—Chas. W. McConnelly; Neosho, Mo., Chas. S. Davis, R. H. Robinson.
 Richeson & Co., S. G., Clifton Hill, Mo.—W. L. Dameron, R. M. Rucher.
 Rice Lumber Co., Chas., Milan, Mo.—Chas. Rice.
 Richwood Lumber Co., Exeter, Mo.—S. L. Warf.
 Rogge, George F., Corder, Mo.
 Rohrbaugh & Co., Ottawa, Kas.—C. H. Constant.
 Rogers Lumber Co., T. H., Claremore, Okla.—Frank E. Leonard; Muskogee, Okla., T. B. Page and wife; Guyman, Okla., Robt. Turpin.
 Rheem Lumber Co., Olathe, Kas.—Chas. Rheem.
 F. Ridgeway & Son, Glenwood, Iowa—Frank Ridgeway.
 Robey-Robinson Lumber Co., Monroe City, Mo.—J. D. Robey.
 Richardson & Co., Homer, Delta, Iowa—Homer Richardson and wife.
 Robinson Lumber Co., E. C., Tulsa, Okla.—E. W. Martin; Vinita, Okla., A. T. King.
 Rhodes & Son, J. B., Colony, Kas.—Fred H. Rhodes, wife and niece.
 Rogers White Lumber Co., Rogers, Ark.—F. F. Freeman.
 Rippetoe Lumber Co., W. E., Topeka, Kas.—W. E. Rippetoe.
 Rohr Lumber Co., G. D., Kaw, Okla.—G. D. Rohr and wife.
 Roush Lumber Co., J. P., Keystone, Okla.—J. T. Roush.
 Rauh, Val., Burchard, Neb., and wife.
 Richards, John F., Olsburg, Kas., and wife.
 Rabe & Brawner, Anxtell, Kas.
 Remley Lumber Co., Topeka, Kas.—P. S. Perkins.
 Ruley & Kunkle, Oregon, Mo.—R. G. Ruley and wife.
 Rhodes, G. W., Wetherby, Mo.—C. C. Roberts.
 Robertson Lumber Co., Marshallfield, Mo.—C. C. Roberts and wife.
 Rankin & Hanna, Tarkio, Mo.—W. M. Rankin, wife and sister.
 Ragon Lumber Co., R. B., Blanchard, Okla.—R. B. Ragon.
 Shepherd & Co., O. B., St. John, Kas.—O. B. Shepherd and ladies.
 Sanders Turner Lumber Co., Milan, Mo.—John H. Cowley and wife; Chillicothe, Mo., R. L. Rawlins; Lee's Summit, Mo., Fred G. Majors.
 St. Louis Lumber Co., St. Louis, Mo.—J. W. Putnam.
 Stevens, W. E., La Salle, Ill.
 Strawn Lumber Co., E. M., Fairview, Okla.—P. H. Wimpey.
 Swayzee, E. G., Pomona, Kas.
 Slowensky, C. C., Cuba, Mo.
 Sundeen, O. W., Burdick, Kas.
 Standard Novelty Works, Texarkana, Ark.—C. W. Fouke.
 Stewart, J. S., Parnell, Mo.
 Starkey, I., Holden, Mo.—C. T. Scott.

Sly, Henry O., and wife, Fairfax, Mo.
 Spicer, C. H., Fillmore, Mo.—O. H. Spicer.
 Salzer, Edward, Monett, Mo.
 Spalding Lumber Co., F. M., Morrill, Kas.—Ray G. Engle and wife; Kelly, Kas., H. N. Skinner; Hamlin, Kas., E. J. Winkler and wife.
 Samson, R. H. & E. D., Quinter, Kas.
 Smith Bailey Lumber Co., Coffeyville, Kas.—C. A. Smith; C. A. Hall.
 Smith Center Lumber Co., Smith Center, Kas.—J. R. Nulty.
 Smith & Stark, Centertown, Mo.—J. E. Stark and wife; W. A. Stark and wife.
 Sweet & Bro., C. B., Weir City, Kas.—Fred P. Baldwin and wife.
 Spurrier Lumber Co., Guthrie, Okla.—S. S. Spurrier and wife; Okmulgee, Okla., T. D. Gregory.
 Smith & Schofield Lumber Co., Geary, Okla.—J. A. Smith and wife.
 S. & S. Lumber Co., Geary, Okla.—W. T. Edwards and wife; F. W. Pinney and wife; M. B. Schofield and wife.
 Star Grain & Lumber Co., Wellsville, Kas.—C. A. Smith; S. E. Hunt; Waverly, Kas., F. E. Fields; Princeton, Kas., D. O. Brown and mother; Wellsville, Kas., F. E. Cayot, C. C. Fields and wife; W. H. Moherman, C. R. Wilkins; Agricola, Kas., J. B. Fyles.
 Schowalter & Co., Halstead, Kas.—A. I. Schowalter.
 Stewart Lumber Co., T. J., Oklahoma City, Okla.
 Sanford Bros. Merc. Co., Joplin, Mo.—W. A. Sanford.
 Sinner, Herman, Warrenton, Mo.
 Sanford Bros. Merc. Co., Joplin, Mo.—N. R. Sanford.
 Schowalter & Co., A. C., Kingfisher, Okla.—A. H. Schowalter.
 Scott, A. L., Bern, Kas.
 Stevenson Bros. Lumber Co., Verdon, Neb.—Geo. Austin and wife.
 Stewart Lumber Co., Wichita, Kas.—C. W. King and wife.
 Shawnee Lumber Co., Topeka, Kas.—F. A. Stickel, Jr., and wife.
 Stevenson, W. W., Walnut, Kas.
 Schowalter & Co., A. H., Dover, Okla.—A. H. Ruth.
 Stanley Lumber Co., Stanley, Kas.—H. Kellogg.
 Seawell Lumber Co., W. P., Mangum, Okla.—R. M. Seawell and wife.
 Swartz Lumber Co., S. M., Newton, Kas.—S. M. Swartz.
 Smith & Son, Morrisville, Mo.—E. J. Smith.
 Smith & Son, Theo., Phillipsburg, Kas.—Theo. Smith and wife.
 Star Lumber Co., Guyman, Okla.—D. B. Bradford and wife.
 Star Lumber Co., Guyman, Okla.—W. D. Youtsler and wife.
 Sawyer, E. A., Dresden, Kas.
 Shront Lumber Co., Buncheon, Mo.—N. A. Stone.
 Southwick & Bevan, New Cambria, Mo.—H. R. Southwick.
 Shaw, J. N., Galesburg, Kas.
 Sanford Bros. Merc. Co., Minden Mines, Mo.—T. H. Sanford and wife.
 Sammers Lumber Co., B. F., Knob Noster, Mo.—B. F. Sammers and niece.
 St. Louis Sash & Door Works, St. Louis, Mo.—W. J. Saacs.
 Stewart Lumber Co., T. G., El Reno, Okla.—G. R. Smiley and wife.
 Storms, Austin D., Ft. Madison, Ia.
 Skinner Lumber Co., H. D., Braymer, Mo.—H. D. Skinner.
 Shepherd & Co., Q. B., Macksville, Kas.—E. R. Shepherd and wife.
 Searle & Chapin Lumber Co., Centralia, Kas.—E. M. Clark.
 Sturges Lumber Co., Sedalia, Mo.—G. A. Sturges.
 Smith & Bates Lumber Co., Bartlett, Kas.—Thos. E. Baly.
 Streeter Lumber Co., Keokuk, Ia.—H. L. Beach, C. D. Streeter.
 Schowalter & Co., A. D., Halstead, Kas.—J. S. Eymann.
 Shelton, L. E., Kansas City, Mo.—Wife and daughter.
 Shelton, L. E., Oranogo, Mo.—G. D. Stone, son and daughter.
 Southern Lumberman, The, Nashville, Tenn.—M. A. Mummert and wife.
 Sanborn, M. P., Chapman, Kas.
 Sloan, B. V., Huron, Kas.—B. V. Sloan and wife.
 Sigler Lumber Co., Indiana, Ia.—C. F. Enos and wife.
 Sarcosie Lumber Co., Sarcosie, Mo.—M. H. Quillin and wife.
 Snale-Pryor Lumber Co., Scandia, Kas.—T. B. Pryor.
 Talt, M. D., Braymer, Mo.—L. E. Coffman.
 Thomas, W. E., Wakenda, Mo.—A. F. Jenkins and wife.
 Thomas Lumber Co., W. E., Bogard, Mo.—W. E. Thomas and wife.
 Thomas, W. E., Orrick, Mo.—F. P. Clark and wife; Marceline, Mo., Alex. R. Thomas and wife; Wakenda, Mo., J. C. Currel and wife.
 Tucker & Sons, Laredo, Mo.—Lee S. Tucker.
 Tucker Lumber Co., J. M., Newtown, Mo.—H. E. Tucker.
 Turner Freed & Co., Milne, Kas.—Geo. H. Turner and wife.
 Trenton Lumber Co., Trenton, Mo.—Chas. A. Thompson.
 Thiele, E. W., Hanover, Kas.
 Thornton Lumber Co., Ben B., Oklahoma City, Okla.—Jno. B. Mason.
 Taylor, Harry, Lyons, Kas.
 Tremont Lumber Co., Chicago, Ill.—F. A. Colburn.
 Taylor Lumber Co., Shawnee, Okla.—Walter B. Taylor.
 Trickett, C. W., Bird City, Kas., and wife.
 United States Lumber Co., Chicago, Ill.—E. H. Belcher and wife; D. V. White and wife; Minneapolis, Minn., H. F. Frey and wife; Omaha, Neb., Chas. W. Young and wife; Oklahoma City, Okla., H. E. Reynolds and wife; Kansas City, Mo., F. R. Winter and wife; Omaha, Neb., R. B. Holcomb and wife; Blue Rapids, Kas., A. E. Winter.
 United Kansas Portland Cement Co., Kansas City, Mo.—E. D. Sherrick.
 Utica Lumber Co., Utica, Kas.—R. C. Webster, Jr.
 Utich Lumber Co., Kansas City, Mo.—Geo. W. Utich, wife and daughter.
 U. S. & D. Co., Wichita, Kas.—R. B. Shanklin.
 Valentine, J. W., Overbrook, Kas., and wife.
 Varble, John T., wife and daughter, Liberty, Mo.
 Vogt, Henry, Inman, Kas.
 Woods, O. E., Oswego, Kas.—Wife and daughter; Chelsea, Okla., R. C. Woods.
 Wallace Lumber Co., F. J., Glenwood, Ia.—S. J. Wallace.
 Western Sash & Door Co., Kansas City, Mo.—Harry Hulen and wife; S. J. Huttig and wife.

Wagoner, I. E., Odessa, Mo.
 Weaver, P. J., Louisbourg, Kas.—Chas. G. Weaver and wife.
 Welsh & Son, R. J., St. John, Kas.—R. J. Welsh.
 Wiegner, T. H., Memphis, Mo.
 Weisgerber, Otto, Lebanon, Mo.—O. L. Weisgerber.
 Ward Bros. Lumber Co., Dearborn, Mo.—Jos. H. Ward and wife.
 Waterville Lumber Co., Waterville, Kas.—Frank E. Fitzgerald.
 Webb City Lumber Co., Webb City, Mo.—J. E. Wiles and wife.
 Western States Lumber Co., Bendena, Kas.—E. L. McGrew.
 Wright, S. S., Keota, Ia.
 Wilson Lumber Co., J. G., Paola, Kas.—Morgan Wilson and wife.
 Wirth, Chas., Lancaster, Mo.
 Wheeler, A. J., Lincoln, Neb.
 Wheeler Bros., Lincoln, Neb.—E. Wheeler.
 Wilson, William, Adair, Okla., and wife.
 Willis & Co., C. N., Leona, Kas.—D. L. Willis and wife.
 Willis, C. N., and wife, St. Joseph, Mo.; Fairfax, Mo., A. L. Carter.
 Willis Lumber Co., Rolla, Mo.—J. W. Willis, wife and two sisters.
 Wilson-Rehes-Holtes Lumber Co., St. Louis, Mo.—F. W. Michel.
 Wilce Co., T., Chicago—A. Tucker.
 Witmer & Schlaegel, Frankfort, Kas.—J. A. Witmer.
 Ward Bros. Lumber Co., Dearborn, Mo.—C. M. Ward.
 Wilken & Miller, Bigelow, Kas.—E. A. Miller and wife.
 Winn Lumber Co., W. W., Hepler, Kas.—W. W. Winn.
 White Cloud Lumber Co., White Cloud, Kas.—Ben C. Burlock.
 Welcome, C. W., Hiawatha, Kas.
 Woodson, C. J., Okarchee, Okla.
 Woods Lumber Co., Claremore, Okla.—E. E. Woods.
 Wakita Coal & Lumber Co., Jet, Okla.—Robt. Jennings.
 White Water Lumber & Coal Co., White Water, Kas.—J. S. Neiman and wife.
 Williamson, E. R., Rich Hill, Mo.
 West Houghton Lumber Co., Cottonwood Falls, Kas.—M. A. Houghton.
 West Side Lumber Co., Blue Springs, Mo.—W. R. Broadus.
 Westrup Lumber Co., Woodbine, Kas.—Louis C. Westrup.
 White Lumber Co., L. J., Bucklin, Kas.—F. W. Fortua.
 Young Lumber Co., E. C., El Reno, Okla.—E. C. Young and wife.
 Yehle, Frank, Tina, Mo.

THE EXHIBITS.

L. V. Thayer had his Peerless cement brick machine in operation in a booth near the meeting hall. J. J. Palmer, Mr. Thayer's right bower, turned out cement bricks "while you wait." The new stamping arrangement made a hit with the crowd, as it solved the vexatious problem of proper and even stamping. This machine can turn out 12,000 perfect bricks daily, one man operating.

The Campbell White Lime Company, Jefferson City, Mo., had a display of their products, in charge of Francis X. Campbell, the secretary-treasurer, and Ahur Asel.

The W. S. Dickey Clay Manufacturing Company showed some interesting samples of the new hollow tile fireproof wall. J. J. Amos was in charge.

The Atlas Portland Cement Company had a booth in charge of Thomas M. Magiff and Walter Smith.

The Barrett Manufacturing Company, of New York, had a very interesting display of its Amatite roofing in charge of F. O. Finneran, Kansas City.

The Universal Portland Cement Company had an attractive booth, with Edward Quebbeman and O. H. D. Rohwer, from the St. Louis office, in charge. These gentlemen extended the glad hand and pinned Universal buttons on everybody.

The American Cement Plaster Company, Lawrence, Kan., had a good location, with B. A. Williams, the jolly assistant secretary, Charles Elwell, W. H. Wychoff, Walter J. Ong and James Kean in charge.

Close to the main entrance the United States Champion roofing tile machinery was on display, in charge of L. Hanson and his son, S. Hanson.

The Compressed Flint Brick Company had a display of concrete blocks and bricks just on the right of the main entrance. George J. Buckeye, who makes the Buckeye hydraulic brick press, was in charge, assisted by A. A. Cummings.

The Southwestern Cement Plaster Company, Okeene, Okla., had a display of its product, with J. C. Fisher, secretary of the company, and Ben Stafford, the general sales manager, in charge.

The American Roofing Company, Kansas City, had an attractive booth, in which they showed their roofing paper. A miniature house covered with their roofing was a feature of their exhibit. H. L. Wilber, manager of the sales department; Charles McMillan and M. K. Armstrong were in charge.

WISCONSIN RETAILERS.

Hold Nineteenth Annual Meeting at Milwaukee.
Reports of Officers and Committees Tell
of Good Work Being Done.

Milwaukee, February 23.—The nineteenth annual meeting of the Wisconsin Retail Lumber Dealers' Association opened a three-days session at 2:30 p. m. in the red room of the Hotel Pfister. Following the regular order of business the president and secretary gave their reports. President D. J. Loomans, Waupun, said they were going to work harder the coming year to secure new members. He spoke of the good work the association had done and would continue to do.

A letter was read from Secretary Hollis of the Northwestern Retail Lumber Dealers' Association, in which he told of the good work being carried on by his association in looking after the freight interests of its members.

Reports were also heard from the Retail Lumber Dealers' Mutual Insurance Association of Wisconsin, and the Wisconsin Retail Lumber Dealers' Mutual Insurance Company.

President Loomans appointed the following committees to act:

Resolutions committee: Waldo Thompson, W. F. Kellogg and E. W. Wilcox.

Auditing committee: F. S. Durham, W. F. Pierstorf and J. B. Laun.

Nominating committee: Fred Barrett, Frank Boddens and E. H. Girard.

State Forester E. M. Griffith closed the afternoon session with a very interesting illustrated lecture on the work of the department in Wisconsin.

At 6 o'clock a dinner was served in the fern room of the Hotel Pfister and the guests were entertained by music from Will B. Hunter and the Lyric Club.

The program for Wednesday and Thursday's sessions is as follows:

WEDNESDAY, FEBRUARY 24, 10:30 A. M.
The Code of Ethics—Sec'y Geo. W. Hotchkiss.
General Discussion on topics to be presented from the chair.

WEDNESDAY AFTERNOON, 2:00 P. M.
"The Intricacies of the Mill Work Business"—W. T. Shephard.
Report of the Committee on Resolutions.
Discussion.

THURSDAY, FEBRUARY 25, 10 A. M. SHARP.
"Cypress Lumber and Its Uses"—Geo. E. Watson, Sec'y.
Southern Cypress Manufacturers' Ass'n. Illustrated by Stereopticon Views.
(Highly interesting.)

Report of Committees.
General Discussion.
Election of President, Treasurer and one Director.
Unfinished Business.
Final Adjournment.

Secretary Lechmund's office at room 8, Hotel Pfister, was open all day for the registration of the delegates. Miss Griffith kept a careful record of all the arrivals, and her records showed that the following had reported up to 6 p. m.:

THE ATTENDANCE.

Ed. J. Young, Brittingham & Young Company, Madison, Wis.
Ray Wilbur, Wilbur Lumber Company, Milwaukee.
Jos. G. Williams, Cooper & Hughes Company, Dousman.
G. W. La Pointe, G. W. La Pointe, Wilson, Wis.
Peter Wolf, P. Wolf & Son, Lomira, Wis.
Geo. B. Wilson, H. P. Hiles Lumber Company, Milwaukee.
F. E. Worden, F. E. Worden Lumber Company, Oshkosh.
G. T. Wolf, G. T. Wolf, Theresa, Wis.
B. A. Young, Jno. De Young Lumber Company, La Crosse.
Turtle Lake Lumber Company, Grand Rapids, Mich.
Cooper & Hughes Lumber Company, Nashotak, Wis.
Little Chute Lumber and Fuel Company, Little Chute.
Port Blakely Mill Company, Seattle, Wash.
Beloit Lumber Company, Beloit, Wis.
Tegge Lumber Company, Milwaukee.
Mayville Lumber Company, Mayville.
Tibbits-Cameron Lumber Company, Milwaukee.
Barnett & Anderson, Van Dyne, Wis.
W. W. Steele, Lodi, Wis.
J. L. Starkweather & Son, Beaver Dam, Wis.
J. L. Stewart Lumber Company, Baraboo.
Wilson-Weber Lumber Company, Menominee.
Edw. Hines Lumber Company, Chicago.
Menasha Woodware Company, Menasha.
W. J. McKee Lumber Company, Quincy.
Medford Lumber Company, Medford.
W. D. Scott & Co., Glenfield, Wis.
Palmetier & Abell Lumber Company, Waukesha.
T. A. Saunders, Milton.
Schaller & McKay Lumber Company, Janesville, Wis.
Schwalbach & Grief, So. Germantown, Wis.
Sander & Cullman, West Salem, Wis.
Brittingham & Hixon Lumber Company, Campbellsport, Wis.
Gould Manufacturing Company, Oshkosh, Wis.
Rolph Bros., Monticello, Wis.
Eggleston & Rodger, Fox Lake, Wis.
A. L. Rounds, Amherst, Wis.
E. M. Rublee, De Forest, Wis.
Kellogg Bros. Lumber Company, Wild Rose, Wis.
Coerper Bros. Lumber Company, Milwaukee.

Dardis Lumber and Fuel Company, Burlington.
The Diestler Company, Hortonville.
Wilbur Lumber Company, Springfield.
Fifield-Dean Lumber Company, Avalon.
John R. Davis Lumber Company, Phillips.
Dickmann Manufacturing Company, Green Bay.
D. Dickinson Lumber Company, Beaver Dam.
Wilbur Lumber Company, Marshall.
Barker Lumber and Fuel Company, Pardeeville.
Morse & Duhik, Neshkew.
Ph. G. Durnnechter, So. Germantown.
Northwestern Fuel Company, Milwaukee.
Eustice & Jenkins, Cuba City.
Eastman Lumber Company, Platteville.
Highland Linden Lumber Company, Platteville.
Lancaster Lumber Company, Lancaster.
Ebenreter & Hildebrand, Sheboygan.
Cobb Lumber Company, Cobb.
Barker Lumber & Fuel Company, Wales.
T. H. Earle & Company, Darlington.
Newport & Febeck, London.
Fifield Lumber Company, Janesville.
Upham Retail Lumber Company, Marshfield.
The R. McMillan Company, Oshkosh.
Fernholz Lumber Company, Jefferson.
C. H. Fintel, Geneseo.
C. H. Fintel, North Prairie.
J. Fountaine Lumber Company, Appleton.
Central Lumber Company, Oshkosh.
Knute H. Flakol, Meridean.
Somo River Lumber Company, Tomahawk.
Brittingham & Hixon Lumber Company, Columbus.
Gates Bros., Lodi.
C. B. Gaines' Sons Company, Bristol.
C. H. Gerard, Stoughton.
Heddes Lumber Company, Lake Beulah, Wis.
Rehward & King, Reesville, Wis.
Rogers-Ruger Lumber Company, Superior, Wis.
Richardson Brothers, Sheboygan Falls.
Yawkey Bissell Lumber Company, Arbor Vitae.
New Glarus Lumber Company, New Glarus, Wis.
F. W. Bird & Son, Chicago, Ill.
Miller & Plehl, Seymour.
W. F. Pierstorf & Sons, Middleton, Wis.
Lovejoy Lumber Company, Evansville, Wis.
A. G. Nelson Lumber Company, Waupaca.
Tibbits-Cameron Lumber Company, Oakwood.
Tibbits-Cameron Lumber Company, So. Milwaukee.
E. A. Neufeld, Green Bay.
G. A. Goodyear Lumber Company, Tomah.
G. E. Mickelson, Mt. Horeb, Wis.
Blanchardville Lumber Company, Blanchardville.
Highland Lumber Company, Linden, Wis.
W. J. Owen, Footville.
Collins Bros. Lumber Company, Brownstown.
J. Greef, So. Germantown.
Pantzer Lumber Company, Sheboygan.
F. B. Goodrich Lumber Company, Milton Junction.
F. J. Hager Lumber Company, Ironwood.
M. H. Hand, Plymouth.
Leonard Hartlein, Dane.
B. Heineman Lumber Company, Antigo.
The Kenosha Lumber Company, Kenosha.
Haevers & Company, Green Bay.
C. Henningsen, Oakfield.
Elgin Lumber Company, Elgin, Ill.
Ideal Lumber and Coal Company, Appleton.
F. Henske & Son, Brandon.
Eastman Lumber Company, Platteville.
C. B. Hopkins, Fennimore.
Hollister, Amos & Co., Oshkosh.
Walker Lumber Company, Columbus.
Tower-Hubbard Lumber Company, West Allis.
Nuzum-Hunter Lumber Company, Viola.
Algoma Lumber Company, Algoma.
Zenger Hoffman Lumber Company, Ft. Atkinson.
P. C. Henningson Sons, Lake Mills.
Cooper & Marson Lumber Company, Milwaukee.
H. M. Johnston Lumber Company, Baraboo.
Grand Rapids Plaster Company, Evanston, Ill.
Jamison Bros., Poynette.
Cream City Sash and Door Company, Milwaukee.
Yawkey Crowley Company, Madison.
Eureka Lumber Company, Eureka.
Sawyer Lumber Company, Sawyer.
The Melcher Lumber Company, Almond.
Oak Center Lumber and Fuel Company, Oak Center.
Kellogg Bros. Lumber Company, Grand Rapids.
De Forest Lumber Company, De Forest.
E. P. Neuens Lumber Company, Fredonia.
J. E. Nuzum, Viroqua.
W. J. Mory, Appleton.
A. F. Mohr, Portage.
Hurley Lumber and Fuel Company, Hurley.
Elmer D. Morse, Princeton, Wis.
F. Mintzloff, Grafton, Wis.
Morgan Sash and Door Company, Chicago.
G. A. Meek & Company, Heleville, Wis.
Bradley Company, Tomahawk, Wis.
Bundy Lumber Company, Bundy, Wis.
Barker Lumber and Fuel Company, Randolph, Wis.
Meyers Bros. Lumber Company, Evansville.
Tower & Hubbard Lumber Company, West Allis.
A. A. Mickelson Lumber Company, Black Earth.
Wilbur Lumber Company, Honey Creek.
Melcher Lumber Company, Wild Rose, Wis.
Miller Lumber Company, Appleton, Wis.
R. J. Martin Lumber Company, Bloomer, Wis.
R. McMillan Company, Oshkosh.
Morgan Company, Oshkosh.
Sette & McCollow, Juneau.
Harmon & McIntyre, Waldo.
Nuzum Hunter Lumber Company, Readstown.
Nuzum Hunter, Soldiers Grove.
T. H. Mair, Morrisville.
Wilbur Lumber Company, Silver Lake.
Ed Waldaner, Hubbleton.
Charles A. Maas, Thiensville, Wis.
H. McCarthy, Brownsville.
Westfield and Fall River Lumber Company, North Milwaukee.
Walworth Lumber Company, Walworth.
Albrecht Manufacturing Company, Kewaunee.
Curtis & Yale Company, Wausau.
W. H. Collins, Brooklyn.
City Lumber Yard, Iron Mountain.
Layton Park Lumber Company, Milwaukee.
Cooper & Graves Lumber Company, Trempealeau.
Mears Lumber Company, Chicago.
A. L. Rounds, Amherst, Wis.
E. M. Rublee, De Forest, Wis.
Allen Lumber Company, Templeton.
Collins Bros. Lumber Company, Madison.

Harry Ballou, Menasha Paper Company, Menasha.
John Bertram and wife, Bertram & Sons, Malone.
T. J. Birmingham, Wm. Hoskins & Co., Galena, Ill.
Montgomery Lumber Company, Kenosha.
W. E. Boidt, Sheboygan Falls.
Yawkey-Crowley Company, Watertown.
Broom-Boss Lumber Company, Rhinelander.
W. F. Mohr, Portage.
F. D. Abell, Palmetier & Abell Lumber Company, Waukesha.
Fred W. Andrews, Heddes Lumber Company, Mukwonago.
W. B. Alton, Livingston Lumber Company, Livingston.
Fred C. Anderson, Anderson Lumber Company, Hudson.
Cyrus W. Allen and wife, Allen Lumber Company, Berlin.
George R. Wettengel, Appleton Lumber & Fuel Company, Appleton.
C. H. Barker, Barker Lumber Company, Delavan.
A. J. Barker, Watertown Lumber & Coal Company, Watertown.
A. B. Bear, Wilbur Lumber Company, Milwaukee.
Fred Barnett, Barnett & Anderson, Ripon.
G. H. Barker and wife, Barker Lumber & Fuel Company, Portage.
J. B. Laun, Kiel.
West Bend Lumber Company, West Bend.
J. H. Koltes, Waunakee.
John Klingelhofer, Waunakee.
A. Kuesel Coal Company, Milwaukee.
John Ruffinger, Allentown.
Little Wolf River Lumber Company, Manawa.
Barnett & Anderson, Picketts.
Lachmund Lumber & Coal Company, Sauk City.
James Leahy, Random Lake.
H. J. Lay Lumber Company, Kewaskum.
G. N. La Point, Wilson.

NOTES OF THE MEETING.

There are many exhibitors at the Wisconsin meeting and practically all of them have opened up headquarters on the second floor of the hotel.

The United States Gypsum Company have one of the largest and most complete exhibits. In addition to their exhibit in Room 58 they have an attractive display on the first landing of the stairs leading up from the lobby. A. Van Roo is in charge and is assisted by J. H. Proctor, Oscar Halverson, A. H. Haines and M. R. Weeks.

The company is showing its Wood Fibre, Adamant and Prepared Imperial plaster, as well as its celebrated Cementico wall coating. They are also showing an interesting thing in the way of a section of a wall built of gypsumite studding and expanded metal lath.

H. Mac Robert, Jr., Chicago, represents the Universal Portland Cement Company. Mr. MacRobert left the Chicago cement show Monday night to attend the Wisconsin meeting. He will be assisted Wednesday and Thursday by A. C. Cronkrite and C. D. Clugston. Many visitors called at the Universal headquarters today.

R. O. Herzog represents the Winthrop Asphalt Shingle Company. This company was organized in November, 1907, and has been putting its shingles on roofs for the past two years. This shingle is made in shape like the ordinary shingle and is nailed on with regular shingle nails.

F. C. Bailey, of the Atlas Portland Cement Company, left the Chicago cement show Monday night and opened up headquarters in the Pfister hotel early Tuesday morning. Mr. Bailey has many friends among the Wisconsin dealers and he is expecting to entertain a large crowd during the convention.

F. T. Smith is representing the Heppes Company at Room 27 and is telling his many callers about the famous No-Tar roofing. This company claims to be one of the first in the country to make and sell what are known as "rubber-roofings."

W. C. Lantry and E. P. Jones are representing The Western Lime and Cement Company, of Milwaukee. Besides this company's lime, etc., it handles about six well-known brands of cement.

The Johns-Manville Company, Milwaukee, is represented by E. A. Herbeck, W. T. Bane and Frank Mohr. The company is showing a complete line of roofing, building papers and sound deadening materials. Mr. Herbeck stated that the company expected to have its new fire-proof warehouse ready by August 1, to replace the one burned two weeks ago at a loss of \$200,000.

A. F. Beerbaum represents The Dailman & Cooper Supply Company, Fond du Lac, Wis., at Room 26. This company has a roof paint on which they are working up a nice business. Mr. Beerbaum says the company has sold a lot of its paint for covering cement roofs and that it works fine.

Chas. B. Kittridge represents The Warren Refining Company. The company is showing its Ebonite cement for filling seams and holes, in addition to being an excellent roof paint. For roofing, a quart of cement is added to each gallon of the paint. The company gives a six-year guarantee on all the paint it sells.

FROM OUR OWN CORRESPONDENTS

CLEVELAND.

CLEVELAND, O., Feb. 15.—A number of big building projects, involving the use of large quantities of cement, have been announced during the past month, to be gone on with when favorable weather arrives. They embrace big stores, office buildings, heavy docks and a concrete race track grand stand, as well as minor projects of more or less importance. The season promises to be one of the busiest in years, according to the present outlook.

The corner of East Ninth Street and Huron Road, one of the best locations in the city to remain unadorned with a modern building, is to have a new one this spring. John Anisfield has leased the property from the Herrick estate and will erect a modern store building. Knox & Elliott, architects in the Rockefeller Building, have been directed to prepare plans for a fireproof structure, with concrete floors and walls and iron and glass fronts. The building will have a frontage of nearly 200 feet on East Ninth Street and about 150 on Huron Road. It will have foundations for twelve stories, although only five stories may be built this year. The land was leased on a property valuation of \$500,000, so it may be seen that a fine building must be built to make it a paying proposition.

A short distance away, on Huron Road, a seven-story structure, to be known as the Universe Building, is to be erected early this spring. It will have a frontage of about sixty feet and a depth of nearly 200 feet. D. Mason Hosford, an engineer with offices in the Caxton Building, is preparing plans for the structure. The building will be fireproof and modern in every particular.

Contracts will be let within a few days on two good-sized projects. The plans for the new \$1,000,000 skyscraper for the Brotherhood of Locomotive Engineers will be let about March 1. Knox & Elliott having finished plans for it. It will be twelve stories high and fireproof, a glazed tile being used for facing purposes. The contract for the F. M. Kirby Building on Euclid Avenue near East Fourth Street, destroyed by fire a few weeks ago, will be let by Architect Knapp, of Wilkesbarre, Pa., shortly. The building will be fireproof.

Cuyahoga County has prepared plans for a power plant for the new Courthouse, to cost \$125,000 for the building, exclusive of the equipment. It will be of reinforced concrete, faced with red shale brick. The Cleveland Engineering Company has charge of the work. As the site is on a hillside considerable excavating will have to be done and massive retaining walls of concrete constructed. These will serve as walls for the building.

One of the largest fireproof garages in Cleveland will be built for the Babcock Electric Company, of Buffalo, on Euclid Avenue, opposite East Sixty-sixth Street, from plans by the Vorce Engineering Company. The building will be two stories high, with a frontage of ninety-five feet and a depth of 200. A seventy-five-foot lawn will be left in front to conform with residences on either side.

The Ohio Legislature will be asked to appropriate \$125,000 for a new fireproof building for the treatment of acute insane cases. Plans for a fireproof reinforced building of concrete are being prepared in anticipation that the money will be forthcoming. The hospital is crowded and the superintendent in charge reports that the new building is imperative.

Large sums of money are to be spent in Cleveland this year for the benefit of the sporting public. The Cleveland Athletic Club has purchased a site on Chestnut Avenue and will erect a new clubhouse, costing \$250,000. It will be fireproof and a great deal of concrete will be used in its construction. A building committee of architects is preparing plans.

H. A. Watterson & Sons have prepared plans and will build a concrete race track grand stand at Randall, just outside of Cleveland. The grand stand will accommodate 3,500 people and will have a reinforced concrete base with steel roof. Every seat will be placed where a good view of the entire track may be had. Some novel ideas in concrete construction are being worked out.

The biggest contract for a stretch of concrete dock ever let in Cleveland has gone to the Hunkin Brothers' Construction Company by the Corrigan-McKinney Company, which is building two large steel furnaces in the upper river bed. The dock will be about 1,100 feet long and will rest on heavy concrete pile foundations. Back of the wall will be three enor-

mous concrete walls each 1,100 feet long. These will be used as retaining walls for ore and as foundations for the ore handling machinery. Work will be begun at once. It is hoped that the dock will be ready for use by September 1 next.

Contractor W. F. Tausch has been awarded the contract for the erection of a \$55,000 hospital building for St. Ann's Orphan Asylum. William P. Ginther, of Akron, is architect. The building will be four stories high and 44x136 feet in size. It will be strictly fireproof. Tile and marble floors are specified for use throughout.

Bids for the new South Side public library were opened on February 13 and were all found to be above the appropriation, which was \$40,000. The lowest bid was from the Andrews Bros. for \$58,884. It was decided to have the architects, Whitefield & King, of New York, remodel the plans to come within the amount stipulated. The money for the building is being donated by Andrew Carnegie.

The old home of the Y. W. C. A. on Walnut Avenue is to be torn down to make way for a new four-story fireproof retail store to be used by a large hardware concern. The building will be of reinforced concrete. It will have a frontage of 100 feet and a depth of about 150 feet. A reinforced concrete warehouse is to be built on West Ninth Street, opposite Lakeside Avenue, for Goakes & Dettleback. It will be four stories high and be unusually well lighted.

One of Cleveland's largest reinforced concrete structures was subjected to a severe test during the month. The new administration building for the White Auto Company was the scene of the test. A floor panel was loaded with 283,000 pounds. Later the same weight was used to test one of the big girders. The panels and girders are said to be the largest ever attempted in Cleveland. The building is just being finished by the Reaugh Construction Company from plans prepared by Architect Geo. H. Smith.

A great temporary exposition hall, to be large enough to take in the Madison Square Garden at New York and the Coliseum at Chicago, is to be built this spring for the Cleveland Industrial Exposition, June 7-19. It will have stucco walls and waterproof canvass roof, with a total length of 393 feet and a width of 250 feet, containing 72,036 square feet. An adjoining armory will contain 40,000 square feet. The temporary building will cost, it is believed, about 40,000.

An unburnable residence of artistic design has been completed for Frank C. Caine on Abington Road, East Cleveland. It has brick exterior walls, reinforced concrete floors, stairs and porches. The foundations and interior walls are of two-piece concrete stone supplied by the Cuyahoga Concrete Stone Company. The general contract was held by the National Concrete Fireproofing Company.

Cleveland is to have a branch of the Ohio Builders' Supply Association. It will be organized within a short time and will work in conjunction with the State organization. The object of these branches, which are to be formed throughout the State, will be to better conditions for handling building materials and to secure some improvements in the existing lien laws of Ohio. Bert J. Graham, of Cleveland, was chosen as secretary of the body at the annual meeting held at Toledo a few days ago. W. A. Fay, who retired as president and who was elected a member of the executive committee, is manager of the Masons' Supply Company, of Cleveland.

The Runker Cement Stone Company, of Cleveland, was incorporated during the past month. The incorporators are F. A. Runker, F. J. Stafford, H. J. Runker, G. C. Camp and Julius Runker. The capital of the new company is fixed at \$8,000.

Charles G. Moore, superintendent of the county roads department, has resigned his position to become an agent for the National Brickmakers' Association, with headquarters at Buffalo. He will have charge of New York and New England territory. Moore is an expert road builder and was formerly city engineer at Coldwater, Mich.

Cuyahoga County, of which Cleveland is the county seat, will spend hundreds of thousands of dollars for brick roads this year. These are being built with heavy concrete bases and curbs and of four-inch paving brick. The Cleveland Trinidad Paving Company got a contract for paving the Parma Road for three miles at a cost of \$63,000. The contract for the North Miles Road went to the same company for \$137,000. The county has been doing its own repair work during the past year and the commissioners report that they saved 12 cents a square yard on all work done. The county spent \$30,000 on repairs during the year. There was a saving of 3½ cents a foot on concrete curb and 10 cents a square yard on concrete base.

M. F. Brady, secretary of the Cleveland Brick and Clay Company, is authority for the statement that

Governor Hughes, of New York, will appoint a commission to examine into brick roads as built in Cuyahoga County. The governor is quoted as saying that this county has the best paved roads of any county in America.

A great brick-concrete thoroughfare from Cleveland to Canton, a distance of sixty miles long, may be built within the next two or three years. It is believed that the road could be built for about \$1,000,000. The expense would be stood by the counties benefited and the State would help. The road would go by way of Akron. Each county would do its own work. Cuyahoga County commissioners have expressed their willingness to proceed with the road from Cleveland to the county line at once.

PHILADELPHIA.

PHILADELPHIA, PA., Feb. 15.—As it is now practically between seasons the cement situation naturally remains quiet. The outlook, however, is hopeful. The trading in general building supplies has been more lively of late, as there has been considerable building going on during the recent favorable weather, and so extensive are the plans for future operations it is estimated that if one-half of it materializes there will be plenty of work for everybody. Large concrete construction and railroad extension work is slow coming in, but there is every indication that there will be considerable doing in these lines before long. The estimated cost of building work for which permits were obtained during January is \$1,677,025. These figures show an increase of \$722,515 over the total for January of last year, and are in excess of the figures for any January for the last ten years, with the exception of 1906 and 1907.

Among the work in contemplation is a four-story hotel, to contain seventy-five rooms to be built at Gettysburg, Pa., at a cost of about \$75,000. Herman Miller, architect.

The "Queen Manor" Apartment House, Midvale Avenue and York Road, this city, to cost about \$500,000. R. E. White, architect. The building will be brick and terra cotta (fireproof), eight stories, and will measure 82 by 146 feet. It will contain house-keeping flats.

A concrete coal pocket and trestle, 11 by 310 feet, and a brick building, 30 by 40 feet, is to be erected on Delaware Avenue, north of Leveck Street, by the Filbert Paving and Construction Company for the city at a cost of \$53,000.

Robert Killough is taking estimates for the erection of 143 two-story houses in the vicinity of Stenton Avenue and Chew Street. Each dwelling will cost on an average \$2,800.

A deal is on the boards for the sale of the Colonnade Hotel, southwest corner Fifteenth and Chestnut Streets, with a view of erecting a modern fireproof hotel of from eighteen to twenty stories, to cost about \$1,000,000.

Cramp & Co. have a contract for a four-story school building of concrete, 90 by 182 feet, at the southeast corner of Twenty-third and Cambria Streets. The cost will be \$185,000.

James G. Doak & Co. have the contract for the new addition to be erected in the rear of the Union League Clubhouse, at a cost of \$527,600.

Oliver Randolph Parry, architect, has awarded the contract for the MacWaters-West Company to James E. Hazzard, of Southampton, Pa., for five high-class residences to be erected in the Lausdowne Park tract. One will be of Spanish Mission style, with white stone and red tile roof; one Colonial, another English half timber style and the two remaining of rambling suburban architecture. The houses will all contain fourteen rooms and will have unusually elaborate interior finish.

John Megraw will break ground immediately for thirty two-story houses, each 15 by 42 feet, on Kingessing Avenue, between Fifty-fourth and Fifty-fifth Streets, to cost \$60,000. The operation is the first installment of 280 houses to be built in this section by Mr. Megraw.

The Master Builders' Exchange gave its regular entertainment at the Exchange rooms on January 30, which was attended by a large number of the members and their friends. A buffet luncheon at noon, as usual, led the program, following which President Cyrus Borgner called the meeting to order and introduced the speaker of the day, George W. B. Hicks, statistician to the mayor, who expatiated at length upon the subject of new Philadelphia. Mr. Hicks gave some very interesting details and statistics of old Philadelphia, making careful comparisons with the figures and status of the new. It was highly appreciated and thoroughly digested by his hearers. The remainder of the afternoon was devoted to vocal and instrumental music. The next monthly social will be held on February 27 and promises to be an interesting

one, as it is announced that the Hon. J. Hampton Moore, congressman of this section, and usually spoken of as "our own Hampy," will address the meeting. At the annual meeting of the Exchange, on January 26, the following directors were elected for 1909: H. S. Andrus, J. Turley Allen, F. F. Black, D. C. Boorse, Joseph E. Brown, John J. Byrne, John D. Carlile, F. M. Harris, Jr., John H. Holmes, William B. Irvine, James Johnston, C. I. Leiper, William S. Lilly, John S. Makin, Frank H. Reeves, Henry Reeves, William T. Reynolds, A. J. Slack, P. S. Smith, John S. Stevens and John R. Wiggins. The ex-presidents, who are ex-officio members of the directorate, are: William H. Albertson, Murrell Dobbins, F. M. Harris, Charles Gillingham, Charles G. Welter, John Atkinson, William Conway, W. S. P. Shields, James J. Ryan, George Watson, Thomas F. Armstrong, J. Lindsay Little and Cyrus Borgner.

On February 9 the directors appointed the following officers for 1909:

President—F. M. Harris, Jr., of Franklin M. Harris & Co., mason builders.

First Vice-President—Frank H. Reeves, of J. W. and C. H. Reeves, plasterers.

Second Vice-President—James Johnston, contractor and builder.

Third Vice-President—H. S. Andrus, of the Keystone Plaster Company.

Secretary and General Superintendent—Charles Elmer Smith.

Treasurer—Henry Reeves, of Stacy, Reeves & Sons, carpenters and builders.

The Engineers' Club held a meeting at its clubhouse, 1317 Spruce Street, on February 6 at 8:15 p. m., President H. W. Spangler in the chair. About 180 members and friends were present. The meeting was an especially interesting one, as the names of the new officers for 1909 were announced, and at this meeting the president, in behalf of his friends in the club, presented the retiring treasurer, George T. Gwilliam, with a very handsome and valuable gold watch and chain in recognition of his long and efficient service. For fifteen years Mr. Gwilliam has labored for the good of this organization, and to his energy and efforts it is conceded is due in no small measure its present success and prominence.

A paper was read at this meeting by T. J. Little, Jr. (visitor), who is an engineer with the Wellsbach Light Company, entitled "Recent Improvements in Gas Lighting Apparatus." It treated of the latest incandescent lights, etc., and was illustrated by lantern slides. It was highly appreciated by those who gave their attention and some of the members took up its discussion.

President Spangler, after relinquishing the chair to Vice-President Devereux, made an interesting address on "Training in the Engineering Trades in Philadelphia," after which a vote of thanks was extended to the retiring officers and the meeting adjourned at 10 o'clock.

The new officers are: President, W. P. Dallett; vice-president, Phillip L. Spalding; secretary, W. Purves Taylor; treasurer, H. E. Ehlers; directors, George T. Gwilliam, Edward S. Hutchinson, Charles F. Mebus and A. C. Wood.

H. B. Green, sales manager of the Whitehall Portland Cement Company, is cheerful over improved trading. He reports business coming around in good shape and has no complaint to make over conditions.

The Wm. G. Hartranft Cement Company states that there is nothing startling to report concerning the cement market at this time; business is holding up fairly well and the outlook is very encouraging.

The Lawrence Cement Company, of Pennsylvania, testifies to a little trading all the time, but admits that large work is slow coming in. However, the outlook is favorable for spring.

Henry Longcope, manager of the Alpha Portland Cement Company, says things are quiet, which is nothing unusual between seasons. Spring, he thinks, will see a change.

Mr. Houck, of the Philadelphia Fire Brick Works, 2306 Vine Street, reports a decided improvement in conditions. His concern is quite busy.

William B. Irvine, president of the Knickerbocker Lime Company, Inc., Twenty-fourth near Callowhill Street, reports steady activity in builders supplies and is confident the summer will see a considerable acceleration in building lines.

The Harrigan Contracting Company, Wilmington, Del., obtained a charter under Delaware State laws on February 10. Capital, \$100,000.

The Interstate Construction Company, capital \$100,000, was incorporated under New Jersey State laws on January 20.

Peter Collins, of Bellefonte, Pa., died on January 15, aged 60 years. He had been a railroad contractor and builder for forty years.

Andrew J. Bracken, aged 55 years, one of the best known contractors of Chestnut Hill, died on January 23.

Roger Hendley, of Wayne, Pa., 71 years of age, died on January 28. He was an architect and engineer of the Pennsylvania Railroad Company; retired December 31, 1907, under the age limit of 70 years, after nearly 50 years of active and useful service.

Lewis Yeager, a well-known retired builder, of Reading, Pa., died on February 1, aged 71 years.

Enoch A. Swope, a contractor of Frankford, this city, died on February 4 at the home of his son, Alfred G. Swope. He was 93 years old. Mr. Swope was a contracting bricklayer and mason. Among the buildings he erected are the Seven Stars Hotel, the Fries Building, the Frankford Odd Fellows' Temple and many others.

H. L. Stevenson, a widely-known builder of this city, died on February 10 after an illness of four years. He was fifty years of age.

BUFFALO, N. Y.

BUFFALO, N. Y., Feb. 16.—Green & Wicks, Buffalo architects, have made the following statement about the plans for improving the State Fair grounds at Syracuse, N. Y.: "The improvements which it is proposed to make this year include the construction of several miles of fence around the entire grounds, 6,000 feet of concrete work seven feet high, 4,000 feet of which will be used for an unloading platform along the railroad tracks, and the building of a new main entrance to the grounds."

The Elmira (N. Y.) Cement Products Company has elected the following officers for this year: President, Thomas Milan; vice-president, Charles A. Pulford; secretary, treasurer and general manager, Harry A. Fisk.

Crossett & Lloyd, Binghamton, N. Y., was recently incorporated there to manufacture and deal in concrete blocks and to build and dispose of concrete dwellings. The company has acquired a tract of land in that city containing seventy building lots. It is the plan of the firm to erect a concrete house on each of the seventy lots as fast as conditions warrant it. On this property a concrete tile factory will be established within the immediate future. The plant will be composed of a main building, 30x65 feet, two stories in height and of the best modern fireproof construction. Other buildings will be located in the yards for the storing of stock, and a complete system of trackage for the handling of the product will be installed. It is said that the concern will use concrete exclusively and that contracts have already been held for several concrete houses.

The Board of Control of Toronto, Canada, has received alternative bids for concrete or brick construction of a trunk sewer to be built in that city. The lowest tender was for concrete construction—\$19.77 per lineal foot—by the Godson Paving and Construction Company. The lowest brick tender was \$33.13, from the Canadian Construction Company. The board decided to hold the bids and the question of whether the sewer shall be of concrete or brick will not be settled until the English and American sewer experts, who will be in that city soon, report on the matter.

The Rochester (N. Y.) Egyptian Burial Vault Company has been organized, as follows: Capital, \$30,000. Directors, George W. Ingmire, Frederick E. Wyatt, Myron L. Bly, Thomas B. Mooney and William F. Maier, all of Rochester.

The Canadian Portland Cement Company, at Port Colborne, Ont., a few miles from Buffalo, is constructing a foundation of concrete for their new warehouse in that town. The building will be close to the bank of the Welland Canal, so that the distance will be just wide enough between the house and canal to allow a car track. The cement will be loaded out of the building into steamers. The company's plant in Port Colborne and the new concrete grain elevator built in that town by the Canadian government were recently inspected by nearly 200 members of the Canadian Society of Civil Engineers. The company, a report says, has just received an order from John Cunn & Sons, contractors, Winnipeg, for 80,000 barrels of cement, to be used in the construction of a power plant at Point Du Bois, that city. This is the largest single order ever placed in Canada.

The Suhr-Orr Vault Company, of Rochester, N. Y., is placing cement caskets on the market. The casket is made over a steel mesh frame, which is placed in a mold. The liquid cement then hardens to form the casket.

Plans have been prepared by N. I. Mather, architect, for a two-family concrete house to be erected for W. O. Lloyd in Binghamton, N. Y.

Marcus Vanderburg is using cement blocks in building a large planing mill for Joseph Overholt in Welland, Ont.

Concrete and crushed stone is being used by the Commissioner of Public Works of Buffalo in filling the holes in some of the asphalt pavements in that city.

The tanks in connection with the new municipal filtration plant to be built in Toronto, Ont., will be of concrete. The cost of same is estimated at \$750,000.

Tierney & Horne have been awarded a contract to build a tunnel trunk sewer at Niagara Falls for \$65,517. Three sets of bids were received, one on the tunnel job and two on the sewer, one for concrete and one for brick.

In connection with barge canal work the Great Lakes Construction Company will construct a dam 1,500 feet west of the Pendleton guard locks, near Lockport, N. Y.

H. A. Reilly, architect and engineer, has severed his connection with the firm of Wilson & Reilly, of Welland, Ont., and gone to Calgary, Alberta, to take a position with the Rocky Mountain Cement Company.

Superintendent Stevens, of the State Department of Public Works at Albany, N. Y., has denied the rumor that the Erie Canal would not be opened to navigation next summer on account of the barge canal operations in the western part of New York State.

The United Engineering Company, which has the \$2,500,000 contract for the improvement of the Erie Canal west of Pendleton, N. Y., has sub-let the first 3,100 feet of the job, starting at the head of the locks and running to Clifford's lumber yards, to Belton & Merritt. The work is through solid rock.

A report from Binghamton, N. Y., says that E. W. Van Slyke, who for many years has conducted a successful architectural business in that city, has formed a partnership with Clyde H. Woodruff, a progressive young architect, and the new firm will be known as Van Slyke & Woodruff.

An expenditure of \$110,489,774 in Canada is asked for in the estimates for the fiscal year ending March 31, 1910, as submitted to the Canadian Parliament at Ottawa, Ont. Several improvements along the Welland Canal, not far from Buffalo, are proposed, including the following: To widen canal near Welland, Ont., \$40,000; Port Colborne, Ont., improvement, \$65,000; surveys, \$10,000; dock south of Welland, \$40,000; siding to Port Colborne elevator, \$21,000; for a public building at Welland, \$18,000.

The Buffalo Connecting Railway Company, which has a capital of \$4,000,000, has applied to the Public Service Commission at Albany, N. Y., for authority to build a steam belt freight line around Buffalo.

F. V. E. Bardol, of Buffalo, was low bidder at \$111,700 for macadamizing, filling and grading a section of the Hamburg Turnpike in this city.

James N. Byers, Buffalo contractor, will erect a modern business structure at Main and Tupper Streets, in this city.

At a cost of \$125,000, Sinclair, Rooney & Company will build a seven-story fireproof building at Washington and Mohawk Streets, Buffalo.

Buffalo Odd Fellows will build a fraternity hall at a cost of \$35,000. The building will be erected by Lincoln A. Willet, general contractor, upon plans prepared by Green & Wicks, Buffalo architects.

It is reported that the Erie Railroad will spend upwards of \$400,000 in improvements at Hornell, N. Y. The Public Service Commission, at Albany, N. Y., has permitted the Erie to issue \$30,000,000 worth of new bonds for various improvements along that system.

H. E. Frey has announced that during the coming spring he will build sixty new dwellings at Binghamton, N. Y. These buildings, with others already begun there, will involve an expenditure of \$188,000. J. Lewis Weir will erect fifteen houses in that city.

The John Hoffman Company, of Rochester, N. Y., will build a new \$45,000 factory. Crandall & Strobel are the architects and A. Friederichs & Sons Company the contractors.

The Rochester Contractors' Supply Company, Rochester, N. Y., has been organized with a capital of \$15,000. The directors are James A. Turnbull, Prentiss B. Gilbert and Willard J. Emefson, all of Rochester.

Extensive improvements will be made this spring in the yards of the Lackawanna Railroad at Elmira, N. Y.

Rupert Gruber & Company has been incorporated in Buffalo with a capital of \$15,000 and will carry on a roofing business. The directors are Rupert Gruber, William G. Nolder and Harry E. Montgomery.

The contract for building at Sault Ste. Marie, Ont., a drydock which will accommodate the largest boats on the Great Lakes has been let to the O'Boyle Construction Company.

In the town of Tuscarora, near Bath, N. Y., Charles Schoonover, a farmer, has discovered under his farm what he believes is a lake of asphalt.

LOUISVILLE, KY.

LOUISVILLE, Ky., Feb. 15.—The building situation in Louisville at present is rather quiet, and all lines of business which manufacture or consume rock products have found that the depth of winter is not particularly conducive to activity in business. The weather in Louisville, as elsewhere, has been much worse than is ordinarily the case at this season of the year, and there has been little building going on. Consequently most of the trades dependent on and allied with building have found February rather dull.

In spite of this apparently depressed condition, however, everybody is confident and alert. Even those lines which have had little to do on account of the weather are assured that the opening of spring next month will be accompanied by increased orders and that the general situation will be much improved. Building itself will be done on a much larger scale, for many of the plans outlined in earlier letters have developed or are about to develop into contracts.

January building, compared with that during the first month of 1908, gives an idea of the growth in construction work. The number of permits issued was 121 and the estimated outlay \$132,830. In the corresponding month of the preceding year more permits, numbering 135, were issued, but the building represented a cost of only \$71,951.

The demand for cement at J. B. Speed & Company is rather quiet just now, according to reports at the office of the company, but the market is beginning to be slightly more active. The mills of the company at Speed, Ind., which were closed down for several weeks for repairs and overhauling of machinery, will reopen shortly after the first of the month. Several additions have been made to the plant, it was announced, so that it will have a considerably augmented capacity.

The Kosmos Portland Cement Company will begin to work on its accumulated clinker about March 15, and hopes to be running full blast and full capacity by April 1. The capacity will be about 1,600 barrels a day, somewhat larger than before the fire last fall. The plant has not been constructed quite as rapidly as had been hoped, owing to delays in the arrival of material, but it is believed by members of the company that the dates given above will be found correct. C. M. Timmons, sales manager of the company, was "writ up" in a local paper as emulating the man who said that he was a lineman for a wireless telegraph company, since Mr. Timmons is sales manager for a company that just now hasn't anything to sell for instant delivery.

The Southern Electrical and Industrial Exposition, which will be held under the auspices of the Louisville Commercial Club at the First Regiment Armory in Louisville, is interesting the building trades men very much. C. M. Timmons, of Kosmos; Henry Gray, of Speed; E. G. Heartick, president of the Builders' Exchange; E. A. Quarles, secretary of the Builders' Exchange, and J. H. Ohlischlager have been appointed on committees in connection with the exposition. The show will be held in the largest hall of the kind in America, covering 54,000 square feet of floor space. A. T. Macdonald is secretary and Fred W. Keisker president of the exposition company.

J. H. Ohlischlager, of the National Concrete Construction Company, said that things are pretty quiet with the company just now, some Evansville work being the chief factor. It is nearly finished. Mr. Ohlischlager regards the outlook as encouraging, and points out that the building that is already in sight is much larger in amount than that at any time last year. The National will bid on the concrete work in the new wing of the Children's Free Hospital, for which plans and specifications are out.

The hospital, which was designed by D. X. Murphy & Bro., is of very modern design, and is absolutely fireproof. It is to be built of brick, steel, concrete and tile. The floors and roof, as well as some of the posts, will be of reinforced concrete, and the steel beams will be filled in with concrete. The building will contain an administration department, as well as wards for the treatment of children. As soon as it is completed the present building will be torn down and another wing added on the site. The new structure will cost \$50,000. It is supported by private subscriptions and treats crippled and helpless children of the poor.

Owing to bad weather, the Central Concrete Construction Company is not doing much, though several jobs which will be carried out when the conditions improve have been landed. A rather important one is the construction of a fence around the rear of the Cave Hill Cemetery, one of the most famous, as well as one of the largest, burial places on the continent. The fence has a concrete foundation and coping, and will take a considerable amount of concrete.

The heavy rains have had one effect that someone is rejoicing at—it has shown where leaky roofs exist, and consequently, according to the National Roofing

and Supply Company, there is a lot of work in patching ahead. There are no special features to the situation as they see it, but the outlook for spring work is exceptionally good.

John Campbell reported things moving along pretty well at the plant of the Kentucky Wall Plaster Company. Things are looking well for spring business.

The past month has been an active one for the Atlas Wall Plaster Company. One contractor, who has substituted Hercules wall plaster for common mortar, has said that he will use it in twenty-one other houses he has in hand. There is lots of building in sight, so the Atlas people feel more than cheerful over the outlook.

Dullness thick enough to cut pervaded the atmosphere in the neighborhood of the office of Burrell & Walker. The "Nothing Doing" sign was hanging out and though those in charge said that it looked as though business would be better shortly, it hasn't developed much strength yet.

The Ohio River Sand Company has started a digger to work, though it is not getting out much stuff just at present. The demand has been about cut off, as the sewer work is supplied with all that will be needed before spring. With the amount of street and general building ahead, however, it is believed that John Settle will have all he can do. The new boat ordered by the company has not yet arrived.

Tracy Girdler, who has been connected with the Union Cement and Lime Company for seventeen years, will take the position of superintendent of the plant of H. E. Carney & Company, cement manufacturers at Mankato, Minn., after March 1. Mr. Girdler is a crack cement man and made a fine record with the Union company.

Owen Tyler, who was one of those who helped to make life pleasant for visitors to the city during the convention of the National Builders' Supply Association, is a real prominent citizen around here. He ran for mayor once, and though he was not elected, his name managed to break into print several times. Mr. Tyler got some experience during that campaign as a speechmaker, and it stood him in good stead during the convention. A story was told, however, of a famous speech which he made in the Board of Aldermen upon the occasion of his election to the presidency of that honorable body. He was unanimously chosen, escorted to the chair and asked to make a speech. He gazed helplessly at the aldermen, saw the reporters leaning forward, ready to transmit his words to posterity, and then said, briefly yet effectively, "Thanks." That is said to be the shortest speech on record in the Board of Aldermen, whose chamber is frequently referred to as the "Cave of the Winds."

The Culley Cement Block Company has been incorporated here with a capital stock of \$15,000. J. S. Culley and J. V. Culley are the persons chiefly interested in the new enterprise.

The Board of Public Works of Louisville has announced extensive plans for street improvements, and the total cost of the work that has already been mapped out will be \$200,000. There will be twenty-four new blocks of streets, fourteen alleys and 163 pieces of sidewalk. Practically all of the work will be done at the expense of property owners, as most of it is original construction.

The Caldwell Concrete Company has been incorporated in McCracken County, of which Paducah is the seat. It has \$1,000 capital and its incorporators are James S. Caldwell, Laura G. Caldwell and Duke Caldwell.

So much noise is made in the neighborhood of the City Hall and the Courthouse that the Board of Public Works has decided to replace the granite blocks of which the street is made with wooden blocks treated with creosote. This will be the first time that blocks of that nature have been experimented with here.

Joseph McWilliams, a well known business man and a member of the Builders' Exchange, died recently of pneumonia, after an illness of but four days. He contracted the disease while on a business trip to Cincinnati.

Owing to ill health, Peter Lee Atherton has resigned as chairman of the Sewerage Commission and has been succeeded by W. C. Nones, who has been a member since its organization. Mr. Atherton will retain his membership in the commission. Henry Bickel has been awarded a contract for the construction of a sewer on Hoertz Avenue, to cost \$30,000, and the Schults & Vogt Company has been given a contract to construct the \$12,000 Aubin Avenue sewer. These are local concerns. The C. T. McCracken Company, of Columbus, O., has secured the contract for the construction of the big section F of the Southern outfall, which will cost \$100,000. There were eleven bidders.

Activity in real estate and building promises well for all branches of the trade. The settlement of the Parr will contest, which has been in the courts

for five years, means that a \$500,000 institution, known as Parr's Rest, will be established, and that several hundred thousand dollars will be spent in erecting a suitable building.

As predicted in this letter last month, the First Christian Church, at Fourth Avenue and Walnut Street, has been sold, the price paid being \$350,000. John P. Starks, a member of the firm of Crutcher & Starks, bought the building, and plans to erect a fifteen-story skyscraper on the site. That means business for the builders, while the erection of a new place of worship by the First Church congregation will require a heavy outlay, probably \$200,000. McDonald & Dodd are the architects for Mr. Starks' new structure. The old Lewis homestead, on Fourth Avenue, south of Chestnut Street, has been sold and will be torn down to make way for a row of handsome business houses. They will cost about \$50,000. Work on the new Tyler Hotel at Third and Jefferson Streets will be started early in the spring, as soon as the weather is favorable.

The Louisville Fire Brick Company, which has a plant covering ten acres of Highland Park, a few miles south of Louisville, suffered a disastrous fire recently, when four dry sheds, containing heavy brick machinery, and two engine rooms were burned to the ground, causing a loss of \$75,000, partly covered by insurance. It was the second heavy loss sustained by the company on account of fire, \$50,000 being the extent of the damage five years ago. The flames this time broke out in one of the dry sheds and were discovered at 4 o'clock in the morning. Frozen hydrants hampered the work of fighting the fire, and the flames reached the pump and put it out of commission. A bucket brigade, of which residents of Highland Park formed a part, finally succeeded in saving surrounding property, including employees' homes, which, for a time, appeared to be doomed. The office, one dry shed, the pattern room and the carpenter shop were saved. Rebuilding the plant is in progress, this having been started as soon as the debris was cleared away. Contracts for the erection of two large buildings have been let, and work is being rushed. It is hoped that full operations can be resumed by the middle of next month. Some orders are being taken care of now. Officers of the company are as follows: K. B. Grahm, president; C. A. Parker, vice-president; Charles E. Parker, secretary, and Miss M. P. Dehoney, treasurer. The company is twenty years old and has a capital of \$150,000.

W. F. Payne, of Louisville, is endeavoring to enlist the interest of local capitalists in the development of nine acres of slate property in Washington and Monroe Counties, Tennessee.

KANSAS CITY.

KANSAS CITY, Mo., Feb. 18.—Dealers in building material of all kinds are expecting this year to be a record-breaker in this trade territory. The great development in Oklahoma is going to be a considerable factor, as building operations down there are very active, especially in the way of school houses, city halls, courthouses, business buildings and residences, and the amount of paving and granitoid walks already contracted for is something immense.

Southern Kansas and Colorado and the balance of the territory to the south is classed by dealers as good territory in which to work in the winter, but this winter has not been as good for building operations as usual. Generally the cold waves from the North play out before they get much south of Kansas City, but this year they seem to have more force than usual and they have run clear down into Oklahoma and even into Texas, and they have been coming at the rate of about one per week since the first of the year, this being just often enough to discourage the starting of building operations in a great many cases.

A recent statistical report of the Department of Agriculture of the United States gives some mighty good reasons for good business in this section of the country. It develops from the figures therein given that over 43 per cent of the entire corn crop of the country is grown in the States in the Kansas City territory, and that the value of the crop in this territory was \$701,148,000 on the farms where produced. Nearly 35 per cent of the entire winter wheat crop of the country was also produced in this trade territory, having a total farm value of \$152,331,000. Nearly 30 per cent of the entire oats crop of the United States was produced in this territory, with a total farm value of \$109,657,000. Eighteen per cent of the entire potato crop of the country, with a farm value of \$35,400,000, was produced in this trade territory, and over 22 per cent of the entire hay crop of the United States, with a farm value of \$141,839,000, was produced in this territory. This means a total farm production for these five crops alone in this trade territory of \$1,140,375,000, and with such a production last year, which was but an ordinary

year, it is evident that if there is not much building in the years to come it will not be because there is not plenty of money produced in this section from the agricultural sources.

If the statements of the architects amount to anything it is evident that there is going to be a vast amount of building in this city within the next twelve months, as all the offices are said to be full of plans, already prepared, and waiting for instructions to turn them over to the contractors. One architect recently made the statement that he knew of at least 10,000 residences which would be built this year. That is a very broad statement, but gives a line on the possibilities of the next twelve months.

For the past year the contractors of this city have been doing such close figuring to keep their forces of men at work that they have failed to make any money for themselves, it is said, but the building supply people have not been so fierce in their fight for business, and have succeeded in making a profit on the material which has gone into the buildings.

Just at the present time there is no changes in the price of building material, except for brick, and there has been an advance of 50 cents per thousand on common brick and of about \$2 per thousand on vitrified face brick. Lime, cement, crushed rock, etc., continue at the same prices that have held for several months, cement retailing at \$1.25 per barrel, f. o. b. cars, or \$1.50 delivered on the job.

Senator Hodges, of Kansas, has introduced a bill in the Kansas Legislature making it mandatory that county commissioners and boards of public works build concrete or stone bridges when the cost of such structures is not more than 30 per cent greater than the cost of the steel bridges.

The Roll Brick Company, dealers in building materials, located in the Ridge Building, has taken the agency for sand lime bricks and building blocks which are made in Clinton, Ia. He is already furnishing this material for several residences, and it is making a good showing. The particular feature of these blocks which he is calling attention to is the fact that they will not absorb water.

G. L. Gray, head of the Gray Construction Company, of New York, was a recent visitor to this city, and said: "No other city in the country is making the progress in building that Kansas City is. We want some of the business, and that is the reason we have undertaken to build the twelve-story hotel at Tenth and Wyandotte Streets. We will soon open an office here in the Commerce Building, and will get busy. We have also some other projects under consideration. While our company is a building company we also assist in financing projects in which we are interested as a building company. This new hotel project has already been financed and the tenants of the present buildings have been notified to vacate, and as soon as they are off the premises we will begin the excavation for the new building, and expect to have it finished within a year from the time we begin construction."

"We have closed the contract for the construction of a thirty-story office building on the corner of Liberty and Nassau Streets in New York, and are now building a thirteen-story office building at Broadway and Olive Streets in St. Louis, and another office building in Little Rock, Ark., besides the agricultural building at the State University in Columbia, Mo., a paper mill at Marseilles, Ill., and a number of other buildings in different parts of the country. There is no better time for building than right now. Since the financial stress there has been a newer and more active interest in building propositions, and there is plenty of money to finance good propositions of this kind. Building materials are cheaper than they have been in several years and labor is available."

C. L. Byars, a paving contractor, who has been working in Guthrie, Okla., was recently arrested for violating the eight-hour labor law of the State and fined by the County Court. He at once took an appeal and will test the constitutionality of the law, claiming that the persons who were worked nine hours by him sought the employment and voluntarily worked more than eight hours, and that they had a constitutional right to do so if they desired.

The F. P. Burness concrete trucks will be exhibited at the Chicago show and from there will be taken up to Toronto. The office reports that they are putting over 400 yards of concrete into the walls each day on their Omaha contract and are putting 200 yards per day into the walls of the Cudahy Packing Company plant, which they are now working on in Wichita, Kan.

B. E. Allison, sales manager of the United Kansas Portland Cement Company, just returned from the Louisville meeting and reports a big meeting, a fine banquet and a good time generally.

The Morinarty garage, which is being erected on Grand Avenue, is making use of a considerable amount of the Ash Grove Portland cement.

Building material men are generally reporting a quiet business now and blame the weather for it. They state that contractors are afraid to begin any

new work when the weather turns so cold every few days, and this limits the demand to people who have their buildings already started and enclosed so work can progress whether it is cold or warm.

Walter F. Jahncke, of New Orleans, La., who is a member of the new executive committee of the National Builders' Supply Association, is the New Orleans agent for the United Kansas Portland Cement Company, of this city.

There is a good prospect for the Kansas Legislature to pass a law making rock roads within the reach of the people where the people want them, and this will be quite a stimulus to road building in the vicinity of this city.

Mr. Smith, manager of the sales department of the Bonner Portland Cement Company, who has been selling large quantities of Bonner cement to Harry E. Kelley, chairman of the Board of Public Works of Fort Smith, Ark., says that that board has done much experimenting with cement in the way of sewer pipe construction, and the sections recently illustrated in this paper were made from the home-made molds contrived by one of their employees, and that the inside of the molds were covered with a coating of very thin oil, applied with a brush, to keep the cement from sticking. The Fort Smith people are very enthusiastic friends of cement for sewer purposes, using it instead of the regular vitrified tile.

The local office of the United States Gypsum Company reports that its plaster is being used on the Sharp Building, a large office building now under construction here, and also on the Boley Building, a six-story building now being erected on the corner of Twelfth and Walnut Streets.

W. J. Stewart, western manager of the Marble Head Lime Company, who has moved his offices to 609-10 R. A. Long Building, reports having found a new use for their rolling pin puzzle, which attracted so much attention during the recent convention. The wife of a Wichita hardware man has written him asking for a price on three dozen of them, to be used as favors for a eucher party.

The Lumbermen's Portland Cement Company reports that its brick plant will be in operation in April and will turn out both paving brick and paving blocks. I. R. Lampert has been employed to take the management of this plant and is now on the ground. The capacity will be 100,000 paving brick per day.

The Eadie Builders' Supply Company is reporting a steady demand for material, especially in the Southwest, Oklahoma being a fine field just at this time.

THE TWIN CITIES.

MINNEAPOLIS, MINN., Feb. 13.—The new season is a little slow to open up freely in building lines, but this may be accounted for in part by the fact that there have been a number of severe storms since the first of the year, which have tended to hold back any early movement in building activity. As far as projects are concerned, they are well ahead of a year ago, while the building permit totals all show much heavier for the present year than for a year ago, when the panic was still fresh.

Building materials are inclined to advance. Lumber has gone up from the lowest figures, and cement will certainly not be as low this year as it was last. The talk in the trade is around \$1.50 to \$1.55 in the Twin Cities, and it is expected that there will be no violent fluctuations of price during the season. It will not go as low as last year, and it will not reach as high as it has done.

Brick has been a very dull proposition, but brick manufacturers are inclined to believe that the worst of their season of depression is past. The stocks carried over from the previous year are relatively less than last year, and it would not take much demand to stiffen the low prices which have been prevailing. Terra cotta and similar goods will be in better demand this year, as there will be more building of the character to call for them.

Architects are receiving inquiries for sketches and prospects from various directions, which would indicate the probability of an early revival.

The Minneapolis city workhouse has been utilizing the prisoners in the production of common brick, and now has quite a stock on hand. It is proposed to use these brick in some of the work on the city schools, but the school board is hesitating, for fear that it will not be able to get its work done if the convict brick are used.

The Minnesota Fama Stonewood Company, of St. Paul, has recently filed articles of incorporation, the capital stock being \$50,000. Arthur C. Petry and Robert J. Petry, of New Ulm, Minn., are incorporators.

Long & Long, one of the prominent architectural firms of Minneapolis, have expanded to admit Lowell A. Lamoreaux, another well known Minneapolis architect, the firm style becoming Long, Lamoreaux & Long. Their offices are at 330 Hennepin Avenue.

The Twin City Brick Company has fitted up more extensive offices in St. Paul on the seventh floor of the Manhattan Building, where a fine display room is also being equipped.

The Minneapolis Builders' Exchange has arranged with a caterer to conduct a cafe in connection with the rooms, and members may have the opportunity of getting their noonday luncheon at the rooms, and be able at the same time to meet with material men, sub-contractors and others, to the saving of the time of both.

A. J. Blix, a Minneapolis architect, has devised a rule for architects and engineers, which consists of a two-foot rule on a thin, flat steel band, folded to a six-inch length. Each side has two sets of figures, to enable expeditious and accurate figuring of plans. The upper side is marked into quarter-inch sections, similar to the scale on plans, with the corresponding measure in feet carried through from two to ninety-six feet. The lower half of the same side shows twelfths of an inch for the first half and eighths and sixteenths. The under side is arranged into inches and tenths for the upper edge and the lower into tenths and hundredths of a foot.

The building inspectors of Minneapolis and St. Paul have been consulting together on a common judgment for the use of reinforced concrete and concrete blocks.

The annual meeting of the Northwestern Clay Makers' Association was held in Minneapolis February 12 and was attended by manufacturers from different parts of the state to a total of about thirty-five. George W. Higgins, of Minneapolis, was elected president; J. W. L. Corning, of St. Paul, vice-president, and Rufus P. Morton, of Brickton, Minn., secretary. The object of the meeting, aside from routine detail, was to push the proposition for greater publicity as to the merits of their product. There was some inclination to attempt to "knock" concrete, but this was not wholly encouraged, and many felt that the real thing to do was not to attack any material, but to push their own. A change of fees and a rearrangement to increase the fee and produce more money is proposed.

TWIN CITY BUILDING NOTES.

Evenson & Madson, of Minneapolis, received the contract for a \$40,000 high school building at Detroit, Mich.

John Wunder, of Minneapolis, has the contract for a \$100,000 sanitarium at Jordan, Minn., for the North Baden Sulphur Springs Company, to be three stories and basement, pressed brick and cut-stone construction.

W. H. McElfrick, a New York architect, is preparing plans for a \$250,000 theater building, to be erected in Minneapolis by the National Amusement Company, of Milwaukee.

Reid Bros. & Company, wholesale plumbing supplies, Minneapolis, will erect a \$30,000 building for their business on Sixth Avenue South, near Washington.

The Hamline University, located at Hamline, a suburb of St. Paul, will erect a gymnasium building during the summer.

Harry W. Jones, architect, has plans for a strictly fireproof enlargement of the Hotel Waverly, Harmon Place, near Twelfth, to be six stories, 50x100, costing \$75,000. Reinforced concrete construction will be used.

The board of education of St. Paul has directed that plans be prepared for a number of school buildings, as follows: West End high school, \$275,000; East Side high school, \$115,000; West Side high school, \$85,000; new grade school, \$50,000.

Mark Fitzpatrick, architect, St. Paul, will prepare plans for a four-story fireproof store building, to be erected at Seventh and Cedar Streets, St. Paul, where the fire occurred recently. Cost, \$125,000.

THE WEST COAST.

SAN FRANCISCO, CAL., Feb. 10.—January has been one of the worst months, as far as the actual work of construction is concerned, that San Francisco has experienced in a long time. Since the first of the year there have scarcely been half a dozen days free from rain, and most of the time the downpour has been too heavy to permit of any attempt at work on the buildings in progress. The northern part of the state has been cut off from communication with this city part of the time, and it has been very difficult to make deliveries of building materials in that section. Part of the Sacramento Valley has been flooded, and many wooden bridges and houses have been washed away. While this naturally delays the building operations that had been contemplated, the material dealers look for a large increase in the amount of concrete used as the ultimate result, as the ability of this material to withstand the floods to which that section is subject should assure its use in the replacing of many of the structures destroyed.

Notwithstanding the interference of the weather with actual operations, the record of building contracts in this city shows a decrease of only about \$100,000, while the amount of concrete, brick and stone work contracted for shows an increase of nearly \$500,000 over December, not counting public works or concrete foundations for frame buildings. Several large contracts have been let already this month, and if the weather clears February should bring a great improvement.

The cement manufacturers all look for a big year. January is hardly considered to have set the pace, as many prospective builders are holding back on account of the weather, and the amount of building in sight assures a larger movement of material than last year.

The local manufacturers have disposed of large quantities of cement since the first of the year. Retailers all over the State have been active in placing orders, as they had been carrying little on hand for the preceding year. The price of domestic cement is \$1.90 per barrel for carload lots in bulk, f. o. b. San Francisco, or \$2.40 including sacks. These figures are considered quite firmly established, with little possibility of a decline and no immediate prospect of an advance. There is comparatively little foreign cement now on the market, and what is left is being jobbed off at low and irregular prices, as holders are anxious to dispose of it to avoid deterioration. The local contractors, as a rule, have become convinced that they can secure material well adapted to their purposes at home, and give little preference to the foreign article. The French bark Alice, with 11,000 barrels of cement for Balfour, Guthrie & Co., at Portland, Ore., was wrecked on the coast of Washington on January 15, and all the cargo lost. There is little European cement now in transit for this coast.

Some changes have been made in the selling organization of the Standard Portland Cement Company and the Santa Cruz Portland Cement Company, now controlled by the Crocker interests. These companies formerly disposed of their product through the Western Building Materials Company, but are now carrying on the selling end for themselves. The organization is in charge of W. J. Mailon and Chas. E. Robson, recently with the Western Building Materials Company, as city salesmen. The companies have their headquarters in the Crocker Building. Their plants are now running at their full capacity, that at Napa, Cal., putting out 3,000 barrels a day, and that at Santa Cruz 12,000 barrels. Last year they moved about 1,250,000 barrels, and this year, with a more active market and a new sales department, they expect to do much better. The product of the Standard plant is running better than ever. A slight change has been made in the mixture, and as a result the tests made show a higher grade of cement than any foreign article in this market.

Rapid progress is being made on the steel and concrete piers and retaining sea wall on the San Francisco water front, and the bulk of the work now in hand will be completed by the end of the year. Bids are now being taken for pier 34, which, according to estimates, will cost \$160,000. The Healy-Tibbetts Construction Company has taken the contract for pier 35. Among the other local contracts on which this company is now working are a \$16,000 reinforced concrete building for Newman Brothers, and a concrete fire engine house and a pumping station for the city of Oakland, amounting to over \$40,000. The company has secured space for its rock bunkers on the water front.

Another concrete fire engine house in Oakland is to be built by the Continental Fireproofing Company.

It is expected that the government will erect a \$500,000 marine hospital at its San Francisco post this year. Work is to begin shortly on the foundations of a \$200,000 warehouse at Fort Mason.

The outlook for a new City Hall is becoming more definite. The occupied portion of the old structure has been declared unsafe, and the supervisors are being urged to have a new one erected by private capital, which is available for the purpose. Plans have already been adopted for the new Hall of Justice, provided for in last year's bond issue, and as the necessary land has been secured the contracts will probably be let in the near future.

The contract for the final section of sewer in the Potrero, amounting to \$92,000, was let last week.

The improvement association south of Market Street is carrying on a campaign among the property owners of that district to secure the repair of all the sidewalks which have not been replaced since the fire, and considerable work will be done there as soon as the weather permits. The city has made appropriations for the improvement of a number of streets in that section.

The city engineer of Oakland has made extensive plans for the improvement of the streets of that city, including the laying of many bituminous and brick pavements according to the most modern methods, and a large amount of new sidewalk work.

A meeting of the stockholders of the Pacific Lime and Plaster Company has been called for March 2, for the purpose of increasing the capital stock from \$100,000 to \$150,000, and authorizing a bonded indebtedness of \$50,000.

CLASSIFIED ADVERTISEMENTS

Advertisements will be inserted in this section at the following rates:

For one insertion 25 cents a line
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No display except the headings can be admitted. Remittances should accompany the order. No extra charges for copies of paper containing the advertisement.

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WANTED.

Practical (not scientific) man with small capital to take charge of well established, up-to-date cement block plant and concrete business. Exceptional opportunity. Address "BUSINESS," care Rock Products.

EXPERIENCED LIME MAN

wanted to manage two kilns and hydrating plant near Albany, N. Y., on profit-sharing basis. Plant modern and entire output contracted for. Must know the business thoroughly, be a first class executive and honest. Address W. M. YOUNG, 2519 Newkirk Ave., Brooklyn, N. Y.

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Capable foreman to take charge of mixing plant, one who understands the mixing and marketing of different brands of hardwall plaster (sanded) and finishes. Must be in a position to take full charge of small plant and operate it at minimum cost. Address S. R. B. S., care Rock Products.

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If you are in need of or wish to sell anything which comes under any of these classifications, write us. If you have something not coming under these classifications we will create one for you.

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A LARGE DEPOSIT OF GYPSUM

For sale. Situated on Bras d'Or Lakes, Nova Scotia; it occurs in a large compact body right at the water's edge. No railroad would be necessary in shipping. The water is deep and the harbor is unsurpassed. The overburden is not heavy, consisting only of a little earth and moss. The gypsum, which is of excellent quality, contains 87 per cent calcium sulphate and only 20 per cent of insoluble matter. It is well exposed in cliffs running from 20 to 150 feet in height above water level; there are several million tons in sight. I will be glad to furnish samples and further particulars to any interested parties. Have also for sale a very fine tripolite deposit near shipping, and also a large deposit of kaolin or potter's clay.

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ENGINE AND BOILER BARGAINS FOR CASH:

CORLISS ENGINES:

- 1—18x36 lefthand Lane & Bodley.
- 1—18x42 Rankin & Fritsch.
- 1—24x30 Clark heavy duty.
- 1—26x30 Clark heavy duty.

AUTOMATIC ENGINES FROM 10 TO 300 H. P.

- 1—13x14 Brownell self contained 20th Century type.
- 1—15x16 Ball high speed. Practically new.

BOILERS:

- 20—72x18 high pressure type, butt-straped 125-lbs. steam pressure (tubular).
- 3—72x18 tubular full flush front, 100-lbs. steam pressure.
- 2—250 H. P. Heine water tube 145-lbs. steam pressure.

Cleveland Belting & Machinery Co.

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FOR SALE.

On account of enlargement of our plant we offer a 40 H. P. gas or gasoline engine for sale at a genuine bargain. For particulars address GLOBE PLASTER CO., Buffalo, N. Y.

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Engines—Corliss, Automatic and Throttling, all sizes from 1 to 500 H. P.
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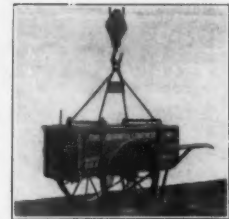
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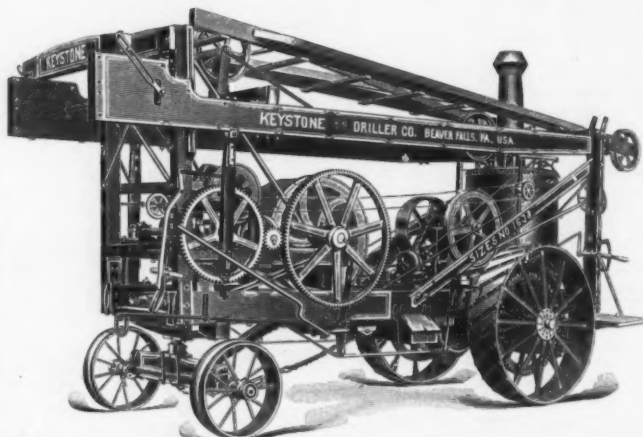
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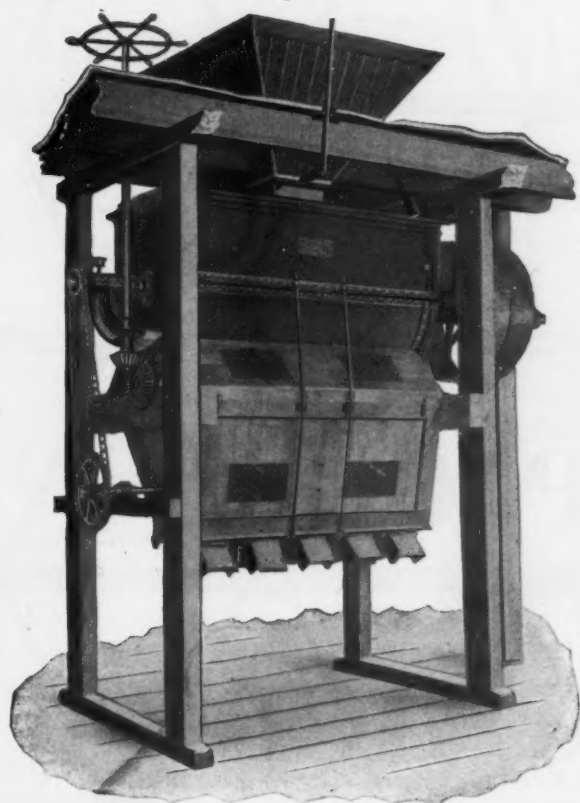
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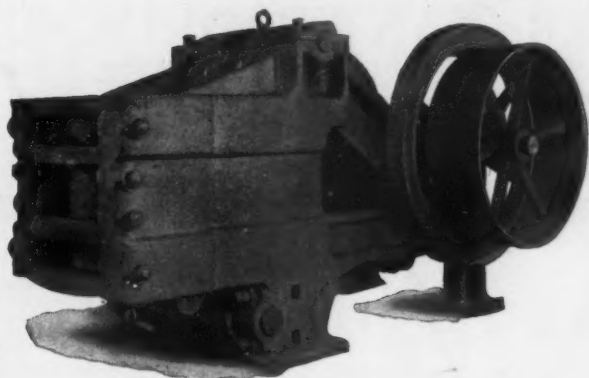
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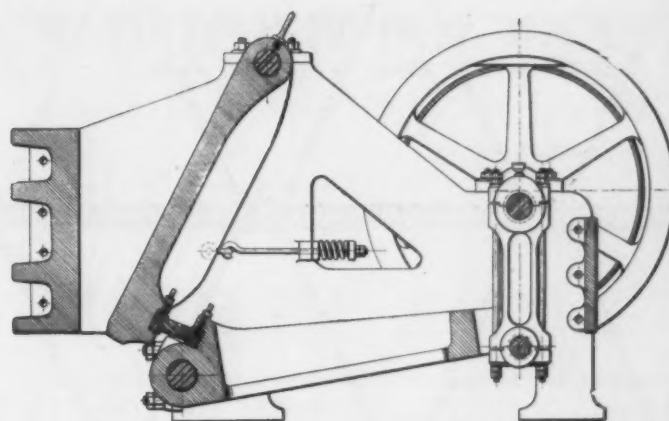
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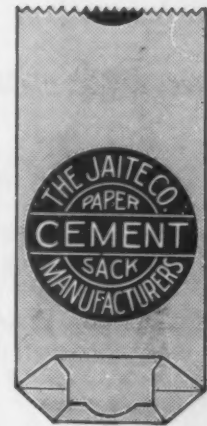
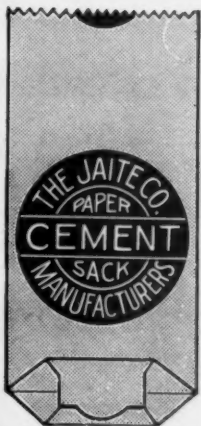
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Is being used by all leading Plaster Contractors. It has become so widely known for the following reasons

- BECAUSE it furnishes the strongest protection to the plaster corner; gives just the right rounding and is a guide for the plasterer in making a plumb, straight angle.
- BECAUSE with its peculiar shape the plaster is not thin and feather-edged where it joins the metal, and so does not crack and flake off.
- BECAUSE the steel is perfectly protected from rusting by a heavy coating of zinc, put on by the **Hot Galvanizing Process**. The electro-galvanized metal corner (which you may get unless "Parker" is specified) does not withstand the chemical action of hard plaster.
- BECAUSE it saves the cost of wood trim and constant repairing and repainting of it.

MANUFACTURED BY

Sharon Steel Hoop Company,

CHICAGO OFFICE: Commercial National Bank Bldg.

N. Y. OFFICE: Fuller Bros. & Co., 139 Greenwich St.

For Grinding Limestone

We Guarantee that

One Raymond Mill with Air Separator

will deliver at point of storage

3½ Tons per hour---98%, 200 mesh.

Think what that means. Compare it with the capacity of other mills. The nearest approach to this capacity that we find claimed by other mills is

2½ Tons per hour.

and that is merely for the actual grinding in the mill. It does not include separating or delivery of the finished product to point of storage, which must be accomplished by additional expensive machinery which is entirely eliminated in the Raymond System. The Raymond System does it all.

Furthermore, 3½ tons per hour is our conservative guarantee. As a matter of fact, where the material is favorable, the Raymond System can deliver and is actually delivering, a finished product at the rate of

6½ Tons per hour---92%, 200 mesh.

We can demonstrate to any cement manufacturer that he is losing money if he is not using the Raymond System for grinding his raw material and coal. This is a big statement and we make it with a full realization of its gravity and importance to the Cement Industry. We can "make good" on this statement. Do you want us to "show you?"

Raymond Brothers Impact Pulverizer Co.

141 Laflin Street, Chicago

Tell 'em you saw it in ROCK PRODUCTS.

There were many
Concrete Mixers

at the
Chicago Cement Show

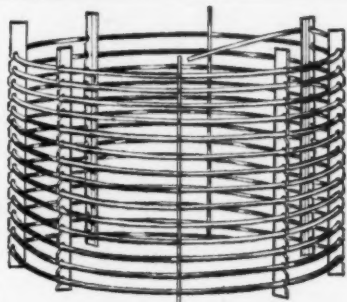
OUR'S
ATTRACTED
Most Attention
AND SALES

**Marsh-Dexter
Mixer**

We claim a lot for this machine.
If our claims are true you want to
know it.

If you will write us we will tell you
how to find out.

Marsh Company
903 Old Colony Building
CHICAGO



Are you interested in Reinforced Concrete Construction?
Do you use or specify Reinforcing Steel?
If you do you should know about the latest improvements
in Reinforcing.

GIRDERLESS FLOOR CONSTRUCTION. SPIRAL WIRE COLUMN REINFORCING.
BAR FABRIC. MULTIPLE LOOP STIRRUPS.

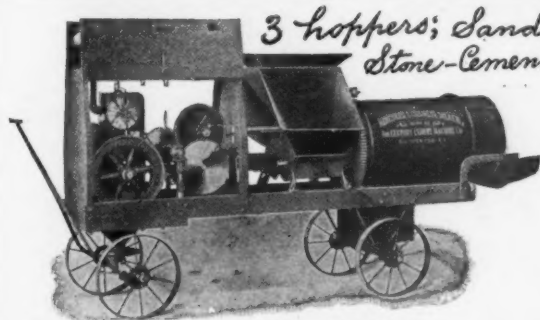
Our methods insure safety in construction, and **LOW COST** and durability in your building.

WE ARE MANUFACTURERS

Send for our booklet "Modern Concrete Reinforcing."

OUR ROD FABRIC MADE A HIT AT THE CHICAGO CEMENT SHOW

F. P. SMITH WIRE & IRON WORKS, 100-102 LAKE ST., CHICAGO



HERCULES CONCRETE MIXER

Send for Catalogue

3 hoppers; Sand-
Stone-Cement

HERCULES

CONCRETE MIXERS

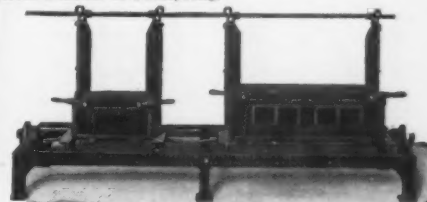
are compactly built and easy to move. Construction the best — all iron and steel, highly finished. Materials handled but once direct from ground to hopper. The Force Feed insures accuracy in proportioning; the Revolving Drum, thoroughness in mixing. Changes in proportions made instantly. There are no expensive delays, because you have

NO

SPRINGS TO BREAK
BELTS TO STRETCH
WORM TO CLOG
PADDLES TO WEAR

**HERCULES CONCRETE BLOCK
MACHINES**

Have given results for years. They are unlimited, and allow for producing all sizes and designs of building stone from 3 inches to 6 feet, long.



HERCULES CONCRETE BLOCK MACHINE

CENTURY CEMENT MACHINE COMPANY, 179 Main Street West Rochester, New York

Tell 'em you saw it in **ROCK PRODUCTS**.

Make Concrete Tile and Sewer Pipe

The Superiority of Concrete Tile over Clay Tile has been Demonstrated Beyond a Doubt

In every state of this country there is a large field for concrete tile. Concrete contractors can make and sell concrete tile to the farmers for draining their lands.

Engineers are specifying concrete tile on sewer and drainage work, for it is a material that does not have to be replaced in a few years.

In Iowa concrete tile is in use today that was laid thirty years ago and is as sound as the day it was laid.

The "Hudson" Molds are the most Economical, Efficient and Durable Molds for Making Concrete Tile and Sewer Pipe

They are made of the very best material and by experienced workmen. They are made of the very best sheet steel and reinforced wherever necessary.

The outer casing is made to open directly away from the finished tile, so there is no danger of injuring the tile in removing the casing. No heavy lifting is required, thus saving considerable time. The clamps to lock the outside casing are very simple, rapid and do the work perfectly.

The inside casing is contracted by a very simple device. It contracts easily and evenly and can be removed from the tile with ease.

Each mould is furnished with a hopper and a cone. A tamper is sent with each order, and with each order for bell-end attachments, we send an extra small tamper.

Wooden pallets are used with the "Hudson" Tile Molds. If you have a good, solid and level floor, no pallets are necessary, as the tile can be made on the floor and remain there until ready to be moved.

The "Hudson" Sewer Pipe and Tile Molds are Unexcelled for Simplicity, Efficiency and Rapidity

They are perfect and make perfect tile at a minimum cost. They are durable. The "Hudson" Sewer Pipe and Tile Molds will make you money. Give them a trial.

HUDSON MANUFACTURING CO.

HUDSON, IND.

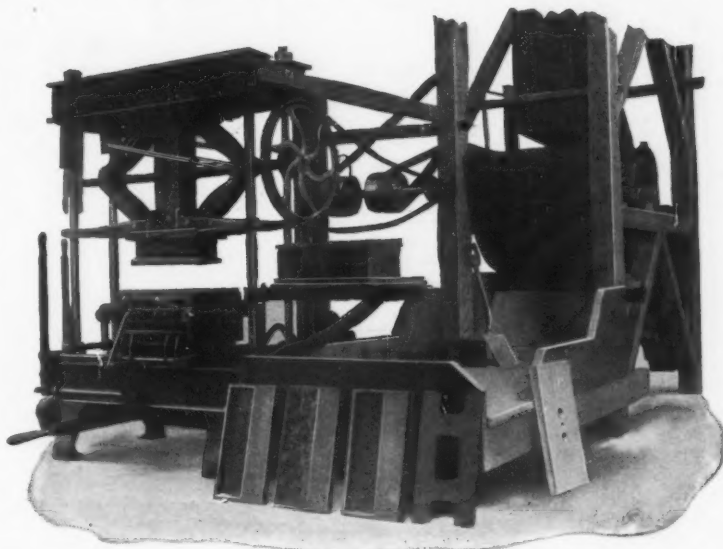
PERFECTION AT LAST ATTAINED IN THE CONCRETE BLOCK INDUSTRY

THE PERFECTION POWER BLOCK MACHINE is the only Power Block Machine on the market, making a Hollow Concrete Building Block under Heavy Pressure and at Great Speed.

Machines have been in constant use since July 1st, 1905, with practically no expense for repairs.

The machine handles sand, gravel, crushed rock, slag and coloring materials perfectly.

All materials accurately measured, thoroughly mixed and uniformly pressed under 200,000 pounds pressure.



Makes 8, 9 and 12x8x24 inch blocks in five faces, and fractional and angle blocks.

Machine can be arranged to make Two Piece and Faced Blocks if desired.

All machines delivered, set up and put in operation to show a guaranteed capacity of 60 blocks (12x8x24 inch) per hour with 5 men.

Blocks perfectly cured in 24 hours in Vapor Curing Kilns of our own design.

Full details, catalog, testimonials, etc., sent upon request.

THE PERFECTION BLOCK MACHINE CO.

KASOTA BUILDING :: MINNEAPOLIS, MINN.

Anchor Concrete Block Machines

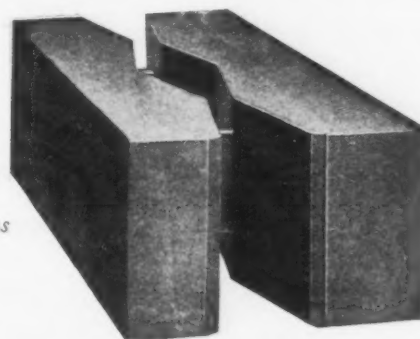


ANCHOR MACHINE IN POSITION TO RECEIVE MIXTURE

Anchor continuous air space blocks guaranteed frost and moisture proof.

Anchor blocks are bound together with firm $\frac{1}{4}$ in. galvanized iron rods 8 in. long and turned one inch at each end.

All machines sold direct to the trade, saving agents' commissions



Write for catalogue and special prices.

Standard Anchor Machines make blocks that lay in the wall 8 in. by 24 in., any width from 8 in. to 12 in.

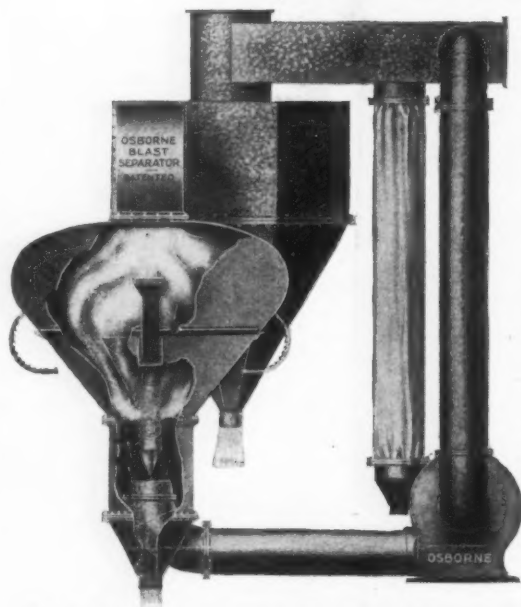
Anchor Jr. Machines make blocks that lay in the wall 8 in. by 16 in. and any width from 8 in. to 12 in.

Anchor Concrete Stone Company

ROCK RAPIDS, IA.

Tell 'em you saw it in ROCK PRODUCTS.

THE OSBORNE PNEUMATIC BLAST SEPARATOR



(TESTIMONIAL)

ALUMINUM COMPANY OF AMERICA, Pittsburg Pa.

H. C. PEPPER Superintendent.

Mr. W. S. OSBORNE, Pres. Osborne Engineering-Mfg. Co., New York City.

East St. Louis, Ill., Oct. 1, 1907.

Dear Sir:—Complying with your request for information in regard to the amount of fine bauxite which we are getting out of the Osborne Blast Separators recently installed here, beg to say that from tests made during the last few days we find an average amount of 16,000 lbs. per hour from each separator, material running about 90 to 100 mesh. These separators have a larger capacity than any we have ever had experience with and we are surprised at the large amount turned out.

Yours very truly,

ALUMINUM COMPANY OF AMERICA

C. B. FOX, Asst. Superintendent.

The most efficient and economical separator ever placed on the market for separating fines from tailings, or for screening all classes of pulverulent material.

The degree of fineness of the material blown into the collector may be regulated with the utmost exactness, and the machine will handle a class of material as fine as 200 mesh.

Material containing 10 to 12 per cent. of moisture is handled without any trouble. These machines are particularly well suited to the handling of abrasive material, such as cement, phosphate rock, limestone, barites, etc.

Descriptive circular and price list on request.

OSBORNE ENGINEERING-MANUFACTURING COMPANY
141 Broadway, New York

"Brownhoist" Grab Bucket



DON'T SHOVEL CRUSHED STONE BY HAND

If you have an ordinary derrick driven by a single drum engine you are equipped to operate our single line grab bucket. This bucket is simply hooked onto the crane hook as shown herewith.

Our bucket on the derrick shown in the picture handled as high as 600 tons of crushed stone in ten hours.

WE CAN INTEREST YOU. WRITE US.

The Brown Hoisting Machinery Co.

Main Office and Works, CLEVELAND, O.

Branch Offices, NEW YORK and PITTSBURG

OUR NEW BUCKET CATALOGUE SENT FREE TO INTERESTED PARTIES.

Tell 'em you saw it in ROCK PRODUCTS.



Concrete Mixer Theories

Grow Into Definite Mixing Knowledge

When Every Mixing Action Is A
Known Positive Mechanical Force

There's An Individuality About Koehring Mixing—It's Known Mixing

The drum is a plain cylinder with heavy cast iron heads, but, bear in mind, it's made without deflecting faces or other obstructions to limit the end-to-end mixing.

The mixing blades are so arranged that they not only lift and pour the aggregates from the side but carry them alternately from end-to-end and break them over against the heavy heads.

There's no guess-work about it—no rolling over in the center of the drum—every action of the aggregates is performed by a known, positive mechanical force.

But there's another mixing than this in the Koehring Mixer.

—When not in discharge position, the inner end of the discharge chute is tilted downward.

—Material carried up by the mixing scoops at the side is discharged onto the inwardly and downwardly extending chute and descends from the inner end in a continuous flow, the entire width of the chute, and falls to the bottom at right angles, to that from the mixing scoops and the end-to-end mixing.

That's three independent mixings, every one of them a known mixing and no theories required to explain them.

Three known mixings in one, is why the Koehring Mixer is the fastest in existence.

But known mixing is not its only improvements over old style batch mixers.

—The trunnion rollers are cast with wide faces, chilled to extreme hardness and placed wide apart at the extreme ends of the drum.

This not only guarantees a stable equilibrium to the drum but insures its maintaining perfect alignment even after years of service. The outer end of the discharge chute does not tilt downward, affording ample clearance for wheelbarrows, even in the smallest sizes.

There are other worth considering features, that every mechanical mind knows are correct in principle, explained in our new catalog. Do not fail to write for it at once, being sure to mention "Catalog P."

**KOEHRING MACHINE CO., 614-617 GERMANIA BUILDING
MILWAUKEE, WIS., U. S. A.**

"The Svenson is Easily the Simplest and Fastest Mixer Ever Built"

Quit wasting money and making bad concrete with that "batch" machine. Don't fuss and lose time with complicated mixers. Let us tell you about this simple, strong machine.

The Svenson Concrete Mixer

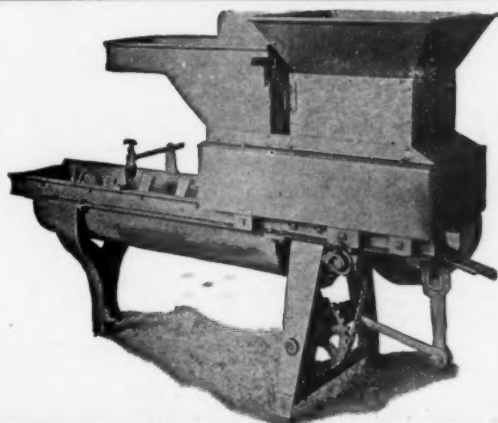
Has only five moving parts, all on one shaft. It keeps going and it keeps the men going.

We want to tell you our ideas on proper mixing, for the "Svenson" mixes dry, then wet—the only scientific way. And it proportions the mix positively, just the way you set it.

Send for Catalogue.

Svenson-Shuman Machine Co.,

602 Bessemer Bldg., PITTSBURGH, PA.



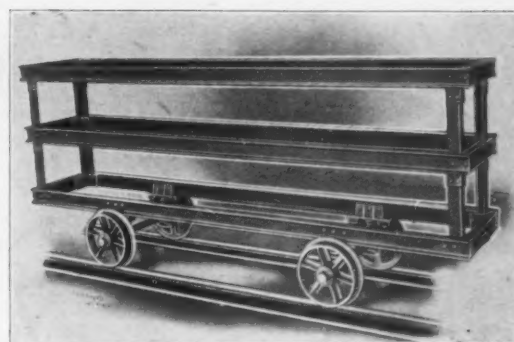
"KENT" CONTINUOUS MIXER

"The Mixer that measures and Mixes"

"You fill the Hopper, the Mixer does the rest"

Simple, reliable, economical, durable and moderate in price

Write for Catalogue and Prices to
The Kent Machine Co.
306 N. Water St., Kent, O.



The "KENT" Block Cars, Transfer Cars, etc.

Tell 'em you saw it in ROCK PRODUCTS.



AUSTIN GYRATORY CRUSHER

The World's Leading Rock and Ore Breaker

The Only Automatically Lubricated Gyratory Crusher

8 Sizes—Capacities 40 to 2000 Tons.

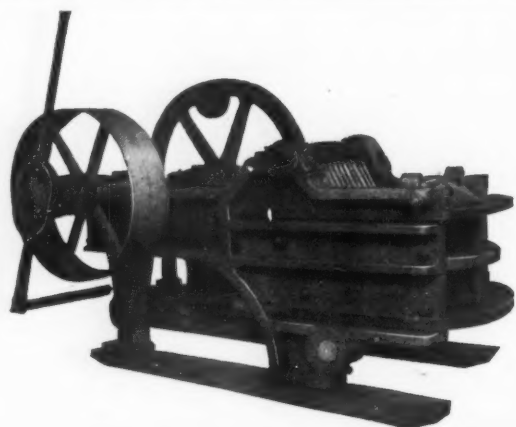
Simple Construction (Saving Repairs)
Economically Operated (Saving Expense)

Correct Design (Saving Power)
Result: EFFECTIVE, DURABLE AND MAXIMUM CAPACITY.

Plans and Specifications Submitted for Any Size Plant.

Write for Catalogue

AUSTIN MANUFACTURING CO., Chicago
New York Office, Park Row Building



CRUSHERS

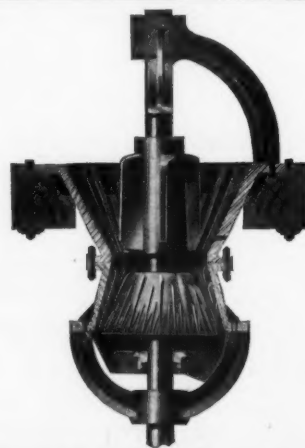
for soft rocks, burnt lime, etc.

GYPSUM MACHINERY

We design modern Plaster Mills and make all necessary Machinery, including Kettles, Nippers, Crackers, Buhrs, Screens, Elevators, Shafting, etc.

SPECIAL CRUSHER-GRINDERS FOR LIME HYDRATORS

BUTTERWORTH & LOWE
17 Huron Street, GRAND RAPIDS, MICH.



GET THE BEST Finest Line of Gypsum Machinery

MADE

KETTLE CRUSHER NIPPERS

ASK FOR CATALOG OF

MOGUL NIPPERS, OPEN DOOR POT CRUSHERS

Best Mills in the United States Have Them

MCDONNELL BOILER & IRON WORKS, Des Moines, Iowa, U. S. A.

"Formerly Des Moines Mfg. & Supply Co."

FARREL ORE AND ROCK CRUSHER

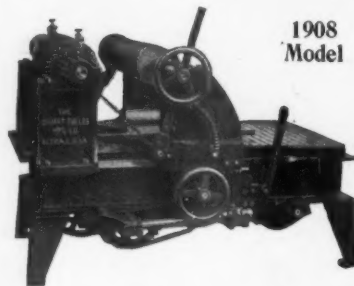
USED IN ALL PARTS OF THE WORLD—LARGE RECEIVING CAPACITY—SPECIALLY DESIGNED AND CONSTRUCTED FOR HARDEST KIND OF WORK
COMPLETE CRUSHING PLANTS OUR SPECIALTY

• SEND FOR CATALOGUE •

EARLE C. BACON, ENGINEER.

FARREL FOUNDRY & MACHINE CO. HAVEMEYER BUILDING, NEW YORK

The Shuart-Fuller Improved Fiber Machine



1908 Model

Has an automatic, proportional, increasing feed, which keeps grade of fiber uniform from start to finish, and holds machine to highest possible rate of production for the grade of fiber and number of saws. Does not begin with fiber and end with dust, nor fall off in rate of production on each log, from 40 to 80 per cent as do the ordinary non-increasing feed machines. Works logs up to 24x24 inches. No royalty, string attached to sale. Pay no attention to misrepresentations of our competitors, but write for descriptive circular and terms to

The Shuart-Fuller Mfg. Co.
ELYRIA, OHIO

St. Louis, June 17, 1907.

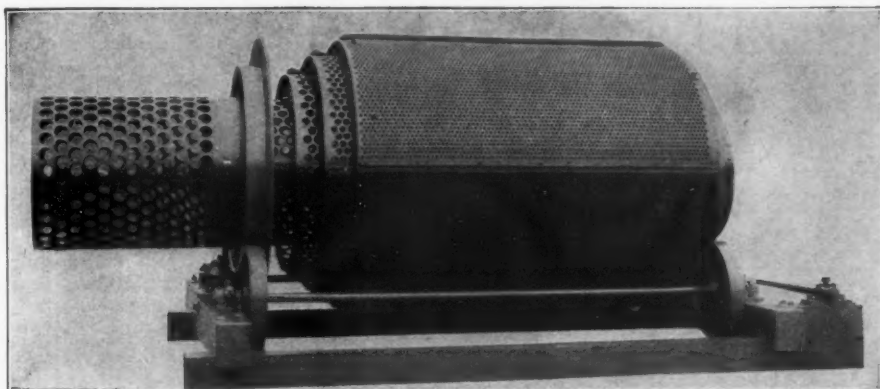
THE SHUART-FULLER CO., Elyria, Ohio.

Gentlemen:—We are just in receipt of advice from our New Mexico plant wherein they state that the Wood Fiber Machine recently shipped by you is doing all that we have asked of it and running very fine

ACME CEMENT PLASTER CO

By Jas. R. Dougan, Sect.

JOHN O'LAUGHLIN'S SCREEN



made solely by Johnston & Chapman is the

ONLY SCREEN

on the market for wide-awake quarry-men and miners, who want to separate crushed granite, limestone or other minerals, gravel, sand, coal or coke. It will soon earn its cost in saving of repairs, and maintenance, and reduced power, and will do more and cleaner work than any other cylindrical screen of like area. No one can afford to keep old traps in use when the O'Laughlin installed

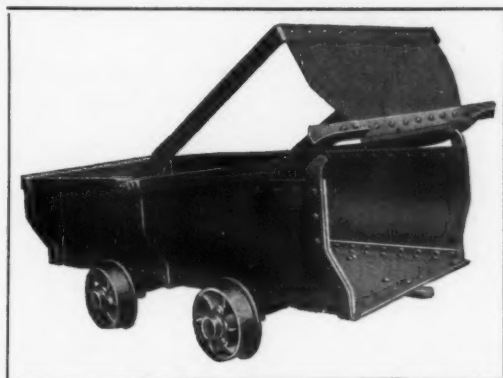
NOW

will from the moment it starts give a better and larger product, and a big interest on your investment in continuous saving in cost of repairs, renewals, and power. For particulars, address:

JOHNSTON & CHAPMAN CO.

1333 to 1345 Carroll Avenue, CHICAGO, ILLINOIS

Perforators of Sheet Metals, Flat, Cylindrical, and Conical Perforated Screen Plates for Quarries, Mines, Reduction Works, Mills and all Industrial Purposes.



ALL STEEL END DUMP QUARRY CAR.

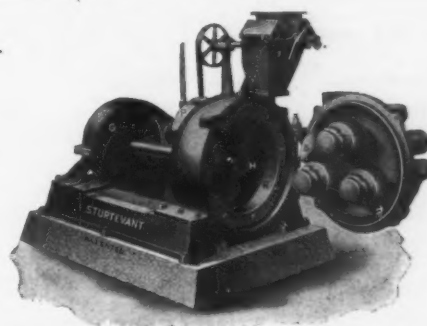
We build these cars in capacities ranging from 1 yard to 2 yards, any gauge desired.

If you are in the market for any kind of CAR, STONE SKIP, ELEVATOR, REVOLVING SCREEN let us know your wants; we can fill them.

Our catalogue No. 10-R shows a few of our supplies.

H. B. Sackett Screen & Chute Co.

4212-4226 State St., Chicago, Ill.



A RING-ROLL MILL

working in connection with a

NEWAYGO SCREEN

makes the simplest and most economical rock-grinding plant yet produced.

Feed, 1½ inch and Finer. Product, from 16 to 100 Mesh.

SEND FOR CATALOGUES Nos. 77 AND 79 in which is shown its superiority in

**ACCESSIBILITY
ECONOMY
EFFICIENCY**

STURTEVANT

MILL COMPANY

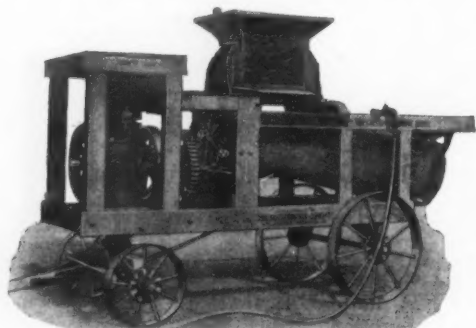
New York
Pittsburgh

Boston, Mass.

Chicago
St. Louis

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THE COLTRIN CONCRETE MIXERS



No. 9, WITH 2 1/2 H. P. GASOLINE ENGINE

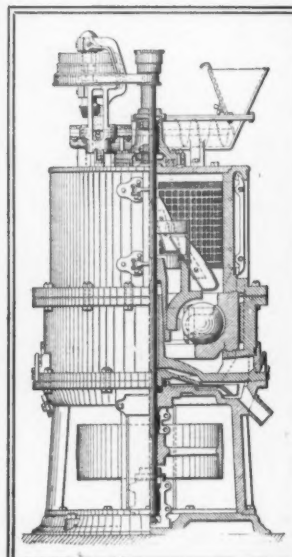
P. B. MILES LATEST THE OLIVER AUTOMATIC BLOCK MACHINE

AND A FULL LINE OF CONCRETE MACHINERY

We Ship Our Machines on Approval and
Invite Competition.

N. J. MOREHOUSE
Waterloo, Iowa

The Fuller-Lehigh Pulverzier Mill



Cement Companies
equipped with
Fuller Mills
advertise the fact that
the consumer
gets
38 pounds more
of the
IMPALPABLE POWDER
or
REAL CEMENT
in
every barrel
of
cement produced
by
The Fuller Mill
than by any other

Produces Commercially

Cement having a higher percentage of Impalpable Powder than can be obtained by any other mill. Tests show that the tensile strength of a one-fourth mortar made with cement pulverized by the Fuller Mill is higher than the tensile strength of a one-third mortar made with cement pulverized to the fineness required by the Standard Specifications.

Lehigh Car, Wheel & Axle Works

CATASAUQUA, PA.

New York, N. Y. Hamburg, Germany Kansas City, Mo.

RAW MATERIAL GRINDERS

New Williams Universal

FOR TUBE MILL FEED

800 BARRELS 22 HOURS
95 PER CENT THROUGH 20 MESH
HORSE POWER 40 TO 50



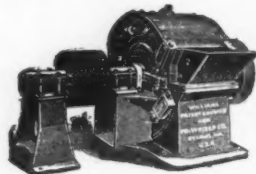
THE NEW WILLIAMS

WE ALSO GRIND
GYPSUM, LIME, COAL AND SHALE

Vulcanite Grinder

FOR ROLLER MILL FEED
TAKES MATERIAL FROM
GYRATORY, DIRECT

CAPACITY 20 TONS HOUR
FINENESS 1/2 IN., 1/4 IN. AND 1/8 IN.
HORSE POWER 40 TO 45
1,300 MILLS NOW IN USE



WRITE FOR BULLETIN NO. 12

WORKS:
ST. LOUIS, MO.

The

SALES OFFICE:
OLD COLONY BLDG.
CHICAGO

Williams Pat. Crusher & Pulverizer Co.

Seattle, Wash. 456 Empire Bldg.

Los Angeles, Cal., 1531 Maines Ave.

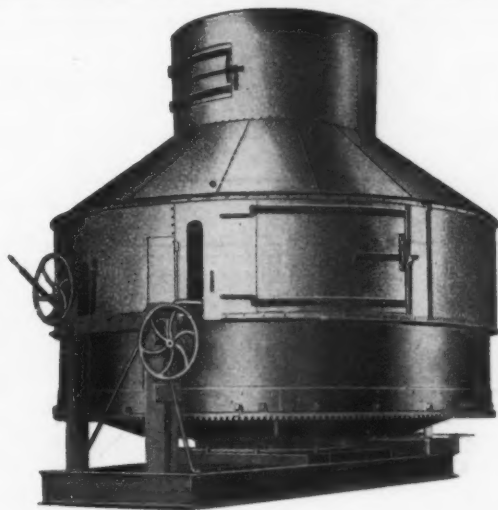
All Steel Contains Manganese

There is no copyright on the term "Manganese Steel,"
therefore, any Steel may be called Manganese Steel

TISCO Manganese Steel is a patented product, and is the standard. The trade-mark "TISCO" is copyrighted. Therefore, any other steel that may be offered as Manganese Steel, will be an imitation depending on the reputation of TISCO Manganese Steel for its sale.

Taylor Iron & Steel Company

High Bridge, N. J.



The Clyde Hydrator

is the accepted standard of highest efficiency, economical operation, positive results and general all around serviceability in hydrating machinery

There are more of them in use than all others put together

They have proven their merit under all conditions

We will furnish full information, booklets and interesting data on your request

"We like to answer questions"

CLYDE IRON WORKS

Manufacturers

DULUTH, MINN.

Tell 'em you saw it in ROCK PRODUCTS

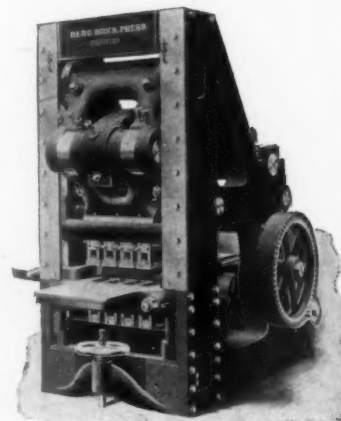
The "Berg Press" is the Highest Development in the Art of Brick Making Machinery, so Pronounced by the United States Government

Highest Grade
BRICK MACHINERY
 and Equipment

FOR
 SAND-LIME, SAND-CEMENT
 FIRE-BRICK, CLAY and SHALE

Each system we guarantee are unequalled and further advanced than any others

**Cement Machinery
 Mining Machinery
 Engines and Boilers**



BERG FOUR MOLD PRESS.
 Highest Efficiency Guaranteed.

The Berg Machinery Manufacturing Co., Ltd.
 Toronto, Ont., Canada

THE KENT PULVERIZER

Takes one inch feed. Grinds to any fineness
 from 10 to 200 mesh.

GRINDS PER HOUR WITH LESS THAN 25 H. P.

CEMENT CLINKER,	40 bbls. to	98%	20 Mesh.
CEMENT CLINKER,	12 "	{ 96%	100 "
		{ 83%	200 "
LIMESTONE,	2½ tons to	98%	200 "
LIME,	4 "	" "	100 "
ROSENDALE CEMENT,	43 bbls. "	90%	50 "
QUARTZ TRAP-ROCK,	4 tons "	" "	40 "

You can easily figure from this what a Kent Mill would
 save for you.

W. J. BELL, Esq., Supt.

NEWAYGO PORTLAND CEMENT CO.,
 Newaygo, Mich.

Says:—Four KENT MILLS are driven by one 75 H. P. motor

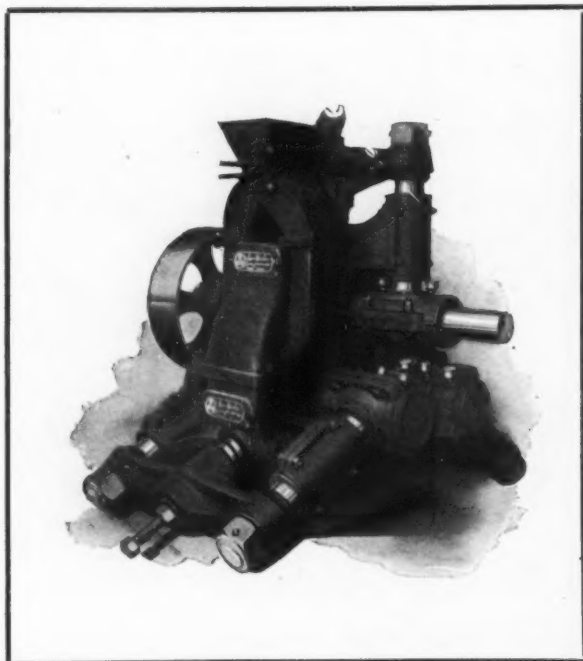
For Catalogs and Information, Address

KENT MILL CO.

LONDON W. C.
 31 High Holborn

170 Broadway, NEW YORK

BERLIN N. W. 6
 Schiffbauerdamm 29



Tell 'em you saw it in ROCK PRODUCTS.

THE OPERA HOUSE—PHILADELPHIA, PA.

SHOWN WITH PORCHES NOT QUITE COMPLETED.

Thanks to the enterprise of Oscar Hammerstein, Philadelphia has as good an Opera House as can be found any where in the world.

The beautiful building is faced with 500,000 White Silicate Brick made by our **division method** (patented).

With 240 feet frontage on Broad St., it extends 160 feet on Poplar St. The greatest height except the stage is 160 feet, and seats 4,100 people. Our White Silicate Brick were also used inside the building on stairways and back wall of stage.

How would you like to produce brick good enough for facing buildings like this and make them as cheap as common brick can be made in any other way out of sand and lime?

A factory operating under our patent, means the best brick possible to produce from sand and lime at a lower cost than others can reach. As our brick bring higher prices than other kinds, your profit is increased both ways, (lower cost to make, higher price for product).

Our brick have beautiful faces and edges and satisfy the most critical architects and contractors.

Write for a letter of introduction to the owners of factories using our process, and then go and see for yourself.

International Sand-Lime Brick and Machinery Co.

Engineers and Contractors for Silicate Brick Factories

Main Office : : 90 WEST STREET, NEW YORK

Tell 'em you saw it in ROCK PRODUCTS.

WHEELBARROWS



No. 5
Ohio Steel Tubular Barrow



No. 150
Ohio Steel Coal and Ash Buggy

We make
twenty other kinds
and styles of
Wheelbarrows

Write for circular
showing our complete
line and our prices.

Manufactured by

The Ohio Steel Wheelbarrow Company

25-31 South St. Clair Street



No. 106
Ideal Contractors Barrow



No. 112
Ideal Gondola Coal and Coke Barrow

TOLEDO, OHIO, U. S. A.

RETARDER Wood Fiber

THE OHIO and BINNS RETARDER CO.
PORT CLINTON, OHIO

Reliable Stucco Retarder=Strong=Uniform in Strength=
Duplicate power plant (electric and steam power) installed so as to preclude any possibility of shut down and consequent shut down of mixers who depend upon us for their supply of Retarder. We have a capacity large enough to supply every retarder user in the U. S. and Canada, and some to spare for Europe. Our mills are fireproof in every particular. Write us for prices and information.

THE OHIO and BINNS RETARDER CO.
PORT CLINTON, OHIO

Tell 'em you saw it in ROCK PRODUCTS.

Does Quality Appeal to You?
Does Prompt Service Appeal to You?
Does Reliability Appeal to You?

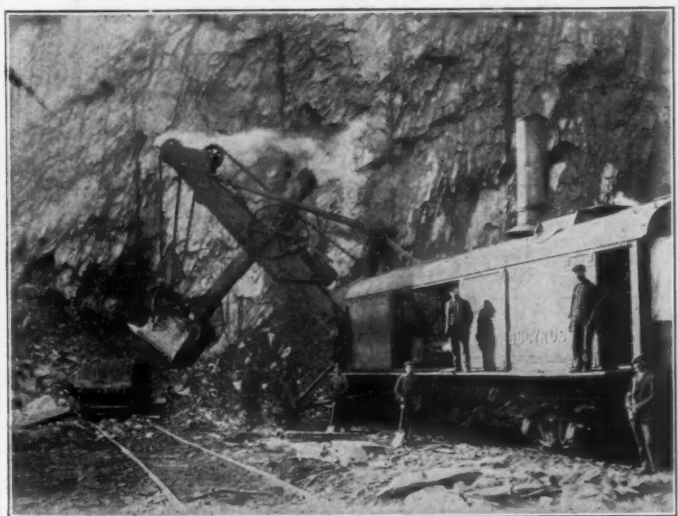
Then Buy

**Your Stucco and
 Wall Plasters of
 The
 AMERICAN GYPSUM CO.
 PORT CLINTON, OHIO**

Quality

Strength

Reliability



**95-B Bucyrus Steam Shovel
 in
 CEMENT ROCK**

**We Build Steam Shovels for
 Quarry Stripping, Cement Mining
 or Loading Crushed Stone**

**THE BUCYRUS CO.
 SOUTH MILWAUKEE, WIS.**

Stucco Retarder

**Strong
 Uniform
 Fine Ground**

RETARDER

We are the oldest Retarder firm
 in the United States, and above
 is our motto. New fire-proof
 plant and prompt service.

FREE SAMPLE ON REQUEST

Chemical Stucco Retarder Co.

WEBSTER CITY, IOWA.

INCORPORATED 1895

Tell 'em you saw it in ROCK PRODUCTS.

STUCCO—Lycoming Calcining Company

Garbutt, Monroe County, N. Y.

Enlarged, Re-equipped, Better and Larger than ever. Capacity, 250 tons per day. First Stucco mill built at Garbutt. Now located on two R. R. systems. Shipping facilities unsurpassed. Ten wall plaster Companies now using our Stucco exclusively, under contract. Write for price.

MAIN OFFICE, - - - WILLIAMSPORT, PENNA.

CUMMER CONTINUOUS PROCESS
FOR
CALCINING GYPSUM
NO KETTLES USED PLANTS IN OPERATION

Great Saving in Cost of Manufacture and Quality of Product Guaranteed.

The F. D. CUMMER & SON CO., Cleveland, O.

RETARDER
UNIFORM AND STRONG

Suitable for all kinds of Stucco and Plaster. Write for sample.

Pennsylvania Retarder Co.
Mosgrove, Pennsylvania

BEST THE BROS.
KEENE'S CEMENT
MEDICINE KANS LODGE

BEST BROS.
Keene's Cement

FOR
PLAIN AND ORNAMENTAL PLASTERING

EQUAL IN QUALITY TO FOREIGN MAKES

MILLS AND QUARRIES:
MEDICINE LODGE, KANSAS
SUN CITY, KANSAS

EASTERN OFFICE: . . CLEVELAND, OHIO

SPECIAL MACHINERY AND FORMULAS

FOR THE MANUFACTURE OF

WOOD FIBRE PLASTER, FIRE PROOFING AND KINDRED PRODUCTS

We furnish the latest improved FIBRE MACHINE, (fully patented) also FORMULAS, on a reasonable proposition. The strongest companies and oldest manufacturers are operating under my contracts.

WRITE FOR TERRITORY

The Ohio Fibre Machinery Co.

J. W. VOGLESONG,
GENERAL MANAGER

Elyria, Ohio

KING'S WINDSOR CEMENT
FOR PLASTERING WALLS AND CEILINGS

Elastic in its nature, can be applied with 25 per cent less labor and has 12½ per cent more covering capacity than any other similar material

Buffalo Branch, CHAS. C. CALKINS, Manager
322 W. Genesee Street

J.B. KING & CO., No. 1 Broadway, New York

Tell 'em you saw it in ROCK PRODUCTS

**BUILDERS' SUPPLY
DEALERS CAN**

MAKE TWO PROFITS!



Both Manufacture and Sell Rader Patented Plaster Board

If you are selling plaster boards you are making one profit. Why not manufacture them and make both manufacturers' and dealers' profits? With

RADER'S PATENTED MOULDING TABLES

you can manufacture the best plaster boards on the market and at less cost than the largest manufacturers, enabling you to compete with any brand, both in quality and price.

PLASTER BOARDS

are rapidly displacing all kinds of lath, being fire and vermin proof, lower in price, more rapid and economical in construction, stronger and more durable.

RADER'S PATENTED PLASTER BOARDS

made only with Rader's Patented Moulding Tables are the most satisfactory now on the market. Cannot be broken as can others, thereby eliminating

all risk of loss by breakage in transportation or general rough handling. They have to be sawed in two. Each side of the board is adapted to different purposes thus having a double advantage over any other make. Three plants are now in operation to meet a growing demand.

A COMPLETE PLANT CAN BE INSTALLED AT A SMALL COST as the Rader apparatus is licensed at a very low price and only a very small space is required for its operation. The device makes boards from $\frac{1}{4}$ to 1 inch in thickness.

TERRITORY AND RIGHTS CAN BE LICENSED

with the exception of the New England and Middle Atlantic states which have already been secured by one of the largest plaster manufacturing companies in the East.

Write us for Samples and Further Information.

GUSTAVE RADER CO. 1105 Metropolitan Ave. **BROOKLYN, N. Y.**

EASTWICK PLASTER CO.

MANUFACTURERS OF
HIGH GRADE CALCINED PLASTER

Also: HARD WALL PLASTER
WHITE COAT FINISH

PARTITION BLOCK

COMPOSITION BLACKBOARD
CEMENT STONE

Let us quote prices and show you
where our materials can save money
for you.

Works
EAST FALLS
PHILADELPHIA, PA.

NEW YORK CITY

City Office
BUILDERS' EXCHANGE
PHILADELPHIA, PA.

WASHINGTON, D. C.


TRENTON, N. J.

Plaster! Plaster!

Iowa Hard Plaster Co.

HARD BY NAME. HARD BY NATURE.
HARD TO BEAT. NOT HARD TO GET.

Iowa Hard Plaster Co. FT. DODGE IOWA....



PLYMOUTH CEMENT
AND
WOOD FIBER PLASTER

The Brand that's Made from Pure Gypsum Rock.

WRITE US FOR PRICES AND ADVERTISING MATTER.

Plymouth Gypsum Co.
Fort Dodge, Iowa

Tell 'em you saw it in ROCK PRODUCTS.



Our Missionaries

In Annual Convention Assembled, at Chicago, January, 1909.

☞ These men (Our Selling Force) are doing great "missionary" work, preaching every day the gospel of good plastering material to the entire building world.

☞ Consider—if the Co-operation of these men would not be worth something to you in the extension of your business!

☞ If you want to be converted to the best line, the best selling line, the best trade-building line of plastering materials—

U. S. G. Hard Plasters

Made From Pure Rock Gypsum

☞ If you would like Quotations, Literature or Information concerning these, or our various Fast Selling Plaster Specialties, such as Sackett Plaster Board, Gypsinite, Universal, U. S. G. Bond Plaster for Concrete, etc., etc.—in short, if you want to enjoy genuine Co-operation, Superior Service and Real Progress, simply—

Address Our Nearest Office:

United States Gypsum Company

NEW YORK

CLEVELAND

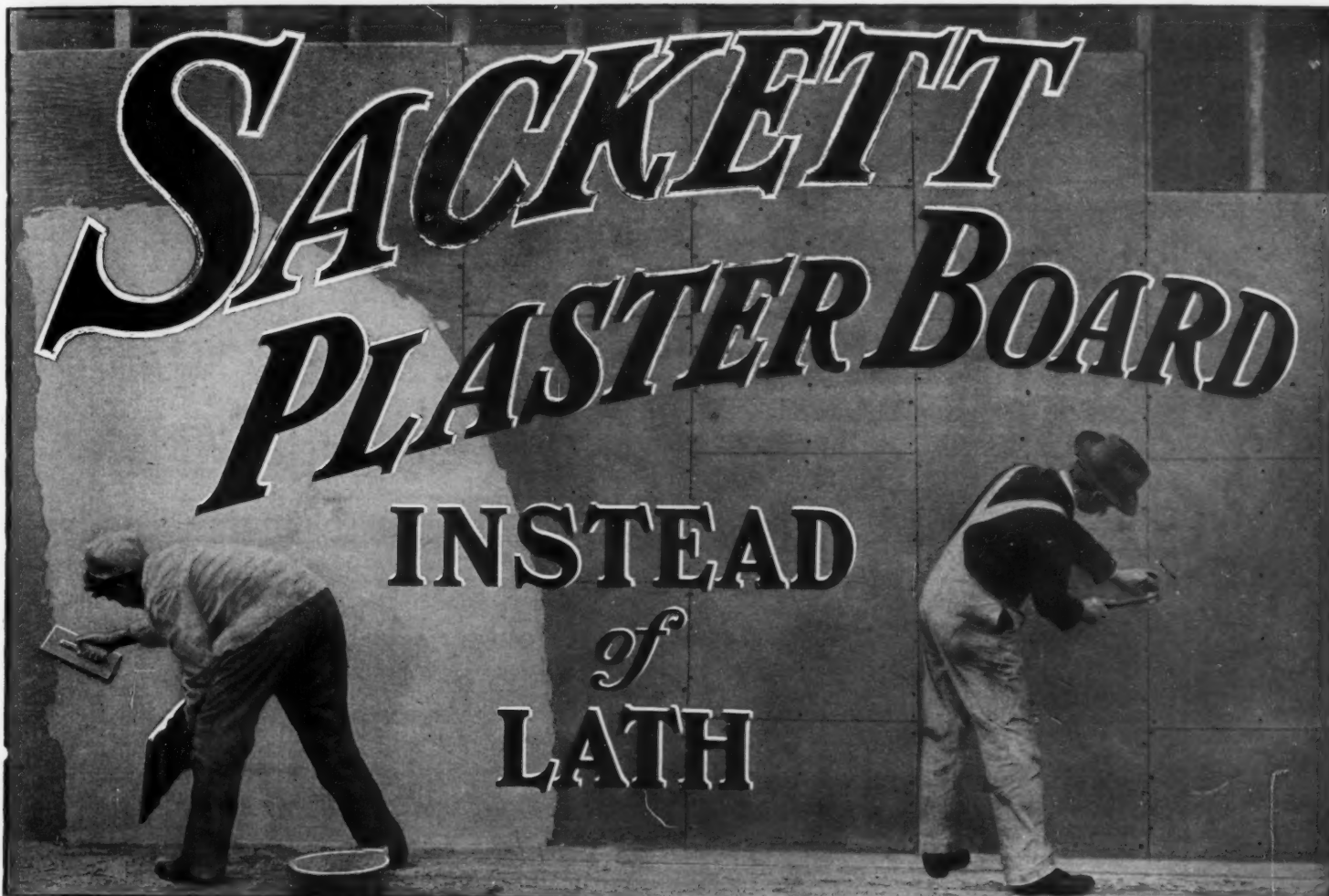
BOSTON

CHICAGO

MINNEAPOLIS

SAN FRANCISCO

Tell 'em you saw it in ROCK PRODUCTS.



FIREPROOF AND ECONOMICAL

SACKETT PLASTER BOARDS have been successfully used since 1891 in thousands of buildings of all classes, including small cottages, prominent hotels, costly residences, churches and theaters.

Walls and ceilings of Sackett Plaster Boards will be DRY AND READY IN HALF THE TIME required when lath is used, as less than half the quantity of water is needed.

Less moisture means less damage from warped and twisted trim and woodwork.

Their superior insulating qualities make warmer houses with less fuel. The first cost is no more than good work on wood lath, and less than on metal lath.

Sackett Plaster Board is an efficient and economical FIREPROOFING not only for walls but between floors, and for protecting exposed wooden surfaces in mills, warehouses and industrial structures. It is also used extensively instead of lumber as outside sheathing under weather boards.

Sackett Plaster Board comes in sheets or slabs 32x36 inches ready to be nailed direct to the studding, furring or beams.

For all kinds of Buildings its use is ideal. It speeds construction; it lessens building cost; it reduces fixed charges for insurance; it makes fire resisting walls and ceilings, and gives absolute satisfaction.

Carried in stock by up-to-date building material dealers everywhere.

Booklet showing buildings all over the country where these boards have been successfully used with SAMPLES and name of nearest dealer furnished on application to any of the following General Distributors.

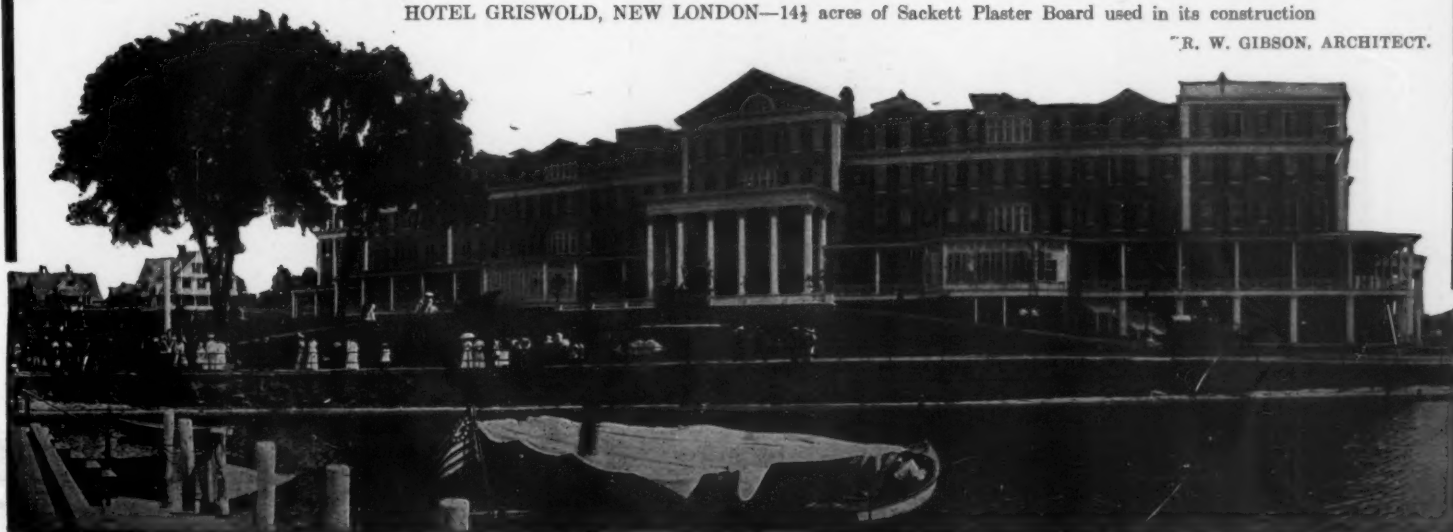
UNITED STATES GYPSUM CO.
CHICAGO CLEVELAND MINNEAPOLIS

GRAND RAPIDS PLASTER CO.
GRAND RAPIDS, MICH

SACKETT PLASTER BOARD CO.
17 BATTERY PLACE, NEW YORK CITY

HOTEL GRISWOLD, NEW LONDON—14½ acres of Sackett Plaster Board used in its construction

"R. W. GIBSON, ARCHITECT.



Tell 'em you saw it in ROCK PRODUCTS.

NIAGARA GYPSUM CO.

MANUFACTURERS OF

GYPSUM PRODUCTS

MINES and MILLS

Oakfield, N.Y.

GENERAL OFFICES

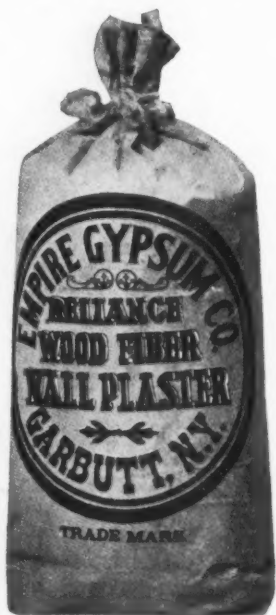
Buffalo, N.Y.

Our electrically equipped mines and mills are now in operation with a capacity of 300 tons per day, and we assure you of prompt service.



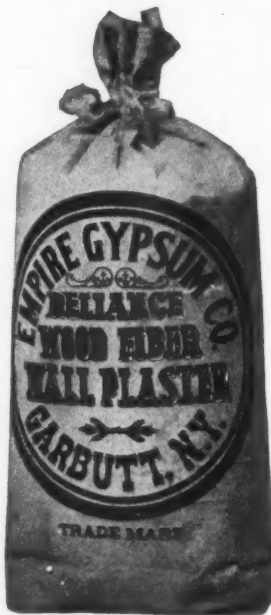
We Manufacture Stucco,
Neat Cement Plaster, Ready
Finish, Wood Fibre Plaster, Fin-
ishing Plaster, Sanded Wall Plaster,
Crushed Rock, Land Plaster.

Quality Strength Capacity



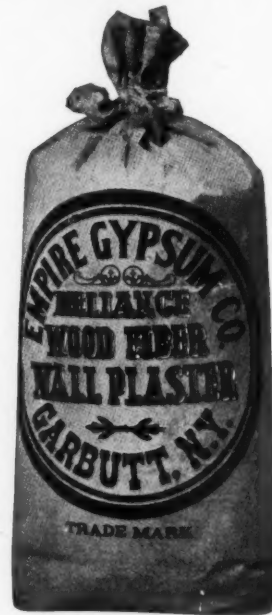
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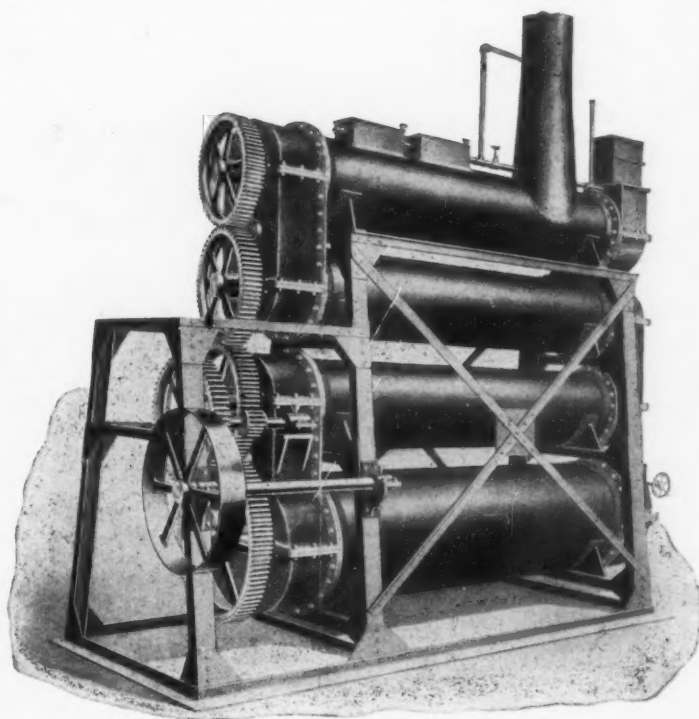


Wall of Fame

Tell 'em you saw it in ROCK PRODUCTS.

Bulletin No. 28

Hydrating Lime

THE KRITZER WAY

Who have kept their plants in operation during the dull times? *Those who Hydrate.*

Who are the most progressive lime manufacturers you know? *Those who Hydrate.*

Who has the business trade that you wish you had? *Those who Hydrate.*

It only takes us about three months to build a plant for you. Why not place your contract with us, so we can have plant built and in operation for the coming season's business?

With our Vacuum Process we are in position to guarantee a perfect chemically pure Hydrate, and to retain the original plasticity of your lime; no swelling or bursting of sacks. Can any other process guarantee you this?

EXPERIENCE — We have been connected with the construction of over thirty plants and no two alike. Every one adapted to local conditions.

Our continuous process is the only process that has proved successful in hydrating a High Calcium and Magnesium Lime.

THE KRITZER COMPANY,
17th & Western Ave., - CHICAGO

BRICK

HIGHEST QUALITY, LOWEST COST.

The Peerless Brick Machine has been shown at 15 conventions this year and it is still the main attraction because it's a profit getter. At Minneapolis we will demonstrate the whole truth about the Peerless.

The Improved Peerless One Man Cement Brick Machine

Equipped with a new tamping device which tamps ten bricks in the machine at one operation, making 12,000 perfectly formed bricks in ten hours.

The most successful and most easily operated one man brick machine ever made.



Showing Peerless Brick Machine Open with the Load Standing on the Pallet, Ready to Carry Away for Racking.



Showing Peerless Brick Machine with Tampers Raised.

The Great Superiority of Cement Brick for all general building purposes over the old fashioned clay product is now thoroughly recognized by architects and builders everywhere.

The Peerless Brick Machine is the greatest invention in the industry. Simple, strong, durable, easily operated, it combines all the advantages of every other machine at the smallest cost. : : Write at once.

Peerless Brick Machine Co.

15 North Sixth Street

MINNEAPOLIS,

MINNESOTA

Tell 'em you saw it in ROCK PRODUCTS.



THE WOODVILLE WHITE LIME CO.

Manufacturers and Wholesalers of BUILDERS' SUPPLIES

Main Offices: Toledo, Ohio
Branch Offices: Pittsburg and Buffalo

Tell 'em you saw it in ROCK PRODUCTS.

Concrete Structural Tile

CONCEDED BY ALL TO BE THE MOST
ADVANCED ATTAINMENT OF THE INDUSTRY

Our booth at the Great Chicago Cement Show was the center of attraction for Home Builders, Real Estate men, and Investors; as well as Engineers, Contractors, Architects and all other Building Experts.

ALL THE REASONS FOR THIS WOULD TAKE TOO LONG TO ENUMERATE,
BUT HERE ARE A FEW:

¶ Concrete Structural Tile is the true ideal material for the American home, because the saving in cost is considerable, and, as the safety of the home from fire is paramount. It is the only possible material with which the walls, floors and roofs can be constructed (the two latter divisions of the work using reinforced concrete ribs) entirely non-combustible.

¶ In this way any building can be made quite safe from fire without paying anything extra, by simply ordering concrete structural tile throughout. When tile is used for the walls and partitions only the floors and roof can still burn out.

¶ No more costly than wood, and cheaper than brick and wood in combination. Think this over in connection with the fire hazard of life and property for the home and for the summer cottage.

¶ The architect finds in concrete tile a widely adaptable material for the expression of the most artistic

modern ideals of design, whether it be in Mission, English Cottage, German, Italian Villa or our own American Colonial style.

¶ Artistic treatment of exteriors, and the grandest interior plaster decorations can be secured with concrete tile, because a wall or partition made of it offers the best plastering surface obtainable without wetting or other preparation. It saves both plaster material and workmanship to such an extent that the same money that would ordinarily pay for a plain job will provide some decorative accessories.

¶ There is a profit in the Concrete Structural Tile business for the manufacturer, for the retailer of supplies, for the contractor; a big opportunity for the architect and the concrete engineer, and the owner is always satisfied.

Millions of Concrete Structural Tile will be used in the building season of 1909, because their sale is only limited by the extent of the production, and large factories at Youngstown, Ohio, New York, Boston, Chicago, Montreal, and other leading markets are preparing to do business upon a large scale.

¶ Full particulars with regard to the equipment of a suitable factory for any given location will be cheerfully given, and a conservative and profitable deal will be exhibited for prospective manufacturers of concrete structural tile upon request.

SEND FOR CATALOGUE

CONCRETE STONE & SAND COMPANY
Youngstown, Ohio

The 2 Latest Miracles

WITH CROWNS OF VICTORY FROM THE CLEVELAND, DES MOINES AND CHICAGO SHOWS

MEET US AT **MINNEAPOLIS** MARCH 3 TO 5

Make 3,000 to 5,000 Cement tile per day, each tile perfect in quality, uniform in density from end to end, the continuous mixer supplying the material.

MIRACLE NO. 1

Every Cement Worker Ought to see

**The Packer That
==Packs==
Uniformly—End to End**

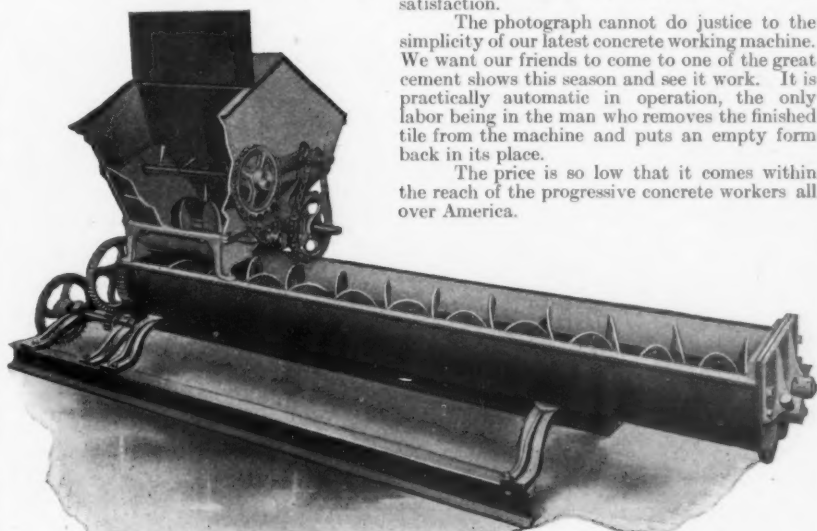
When we did the pioneer work introducing Miracle Cement Tile Molds we set out to give the Cement trade a machine that would do the work as well as it can be done by hand, with a saving of labor cost.

The important problem in the design of a perfect tile machine is in the packing device which does the work of hand tamping when using molds. Miracle machinery is never sold until it has successfully passed the tests of use. Our Baldwin Tile Machine is no experiment. The product could not be made better by the most expert cement worker with hand tamping in molds.

It packs the cement solid; and operates easily and quickly; giving uniform satisfaction.

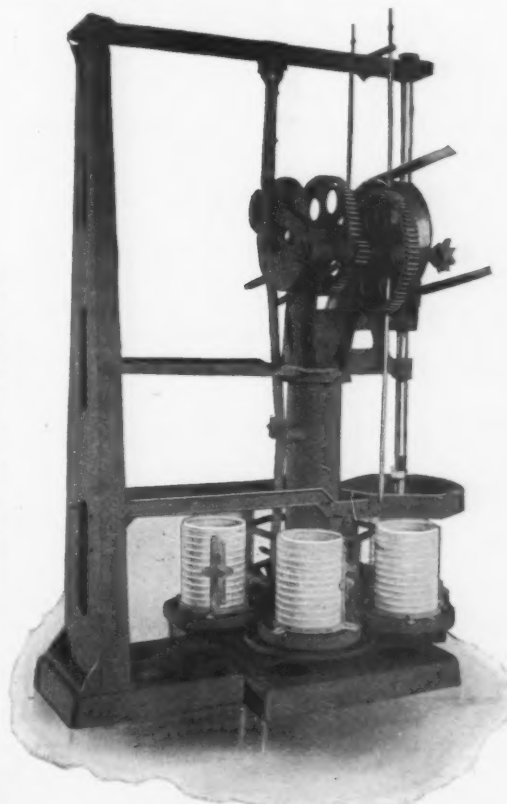
The photograph cannot do justice to the simplicity of our latest concrete working machine. We want our friends to come to one of the great cement shows this season and see it work. It is practically automatic in operation, the only labor being in the man who removes the finished tile from the machine and puts an empty form back in its place.

The price is so low that it comes within the reach of the progressive concrete workers all over America.



Miracle Continuous Mixer

You may not be open to consider either of these latest Miracles in your business, but whatever you want in Concrete working machinery—remember we have it. We like to call ourselves “the department store of the concrete industry”—we sell everything from a 25c tool to a Mastodon mixer—everything you can think of—all produced by practical concrete workers—one of the oldest concerns in the industry in America.



Our Baldwin Tile Machine

MIRACLE No. 2

The illustration of the Miracle Continuous Mixer herewith avoids the necessity for a lengthy description. Two essential features are secured by this machine, without which no mixer can be called a success, no matter how much it may handle. This continuous mixer preserves the proportions of cement and aggregate as accurately as a batch mixer, and it mixes the constituents perfectly. It will turn out in absolutely prime condition a mix of 50 cubic yards in a day of 10 hours, running only 40 revolutions per minute, and it can be speeded up so as to handle satisfactorily over 75 cubic yards per day.

The Miracle Continuous Mixer is operated by a 3 H.P. self-contained gasoline engine, which under the severest tests of actual use has been found amply effective. The engine is guaranteed. Mixers may be bought with or without power, and either on skids or on trucks, as preferred. Full description of the Miracle Continuous in a new booklet, just out. Send for it.

Miracle Pressed Stone Co.

LARGEST MANUFACTURERS OF CONCRETE MACHINERY IN THE WORLD

Minneapolis, U. S. A.

Tell 'em you saw it in ROCK PRODUCTS.

BUILT FOR BUSINESS

Champion Steel Rock Crushers



The Champion Portable Crushing Plant

Will make money for users because they will do more work at less cost for repairs than any other machines. Built in five sizes, from 75 to 300 tons daily capacity.

Complete Crushing Plants, including Elevators, Screens, Conveyors, Engines and Boilers, designed and installed.

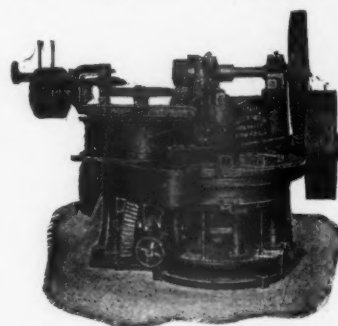
Catalogue costs nothing. A large calendar free to those who mention this paper.

Address

The Good Roads Machinery Co.

KENNETT SQUARE, PA.

The American Sandstone Brick Machinery Company, SAGINAW, MICH.



Improved Saginaw Rotary Presses are now being built right or left hand, with extra table for making face and fancy brick, on which double pressure is exerted. Our patented brush does the work of one man, and keeps the plunger plates clean.

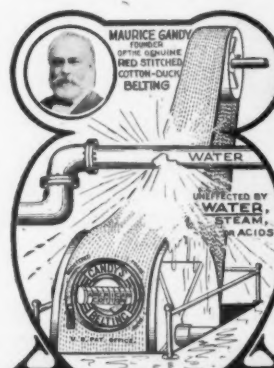
DON'T confuse our practical system with the so-called Scientific Systems. We confine ourselves to the manufacture of machinery for making brick from sand and lime; installing the complete plant starting and operating at our expense until at least 100,000 brick are made before asking for a settlement.

Our Plants are installed under the supervision of practical engineers who know how Sand-Lime Brick should be made, and can be made.

We have practical plants running successfully, to show to prospective investors.

We are Not Scientists.

We produce results, because we are the oldest practical Sand-Lime engineering company doing business in the United States, and we defy contradiction. Incorporated April 1902.



THE GENUINE GANDY ROUGH AND TOUGH

That's the kind of service the Quarryman's belts must face, and with one exception they soon give up the fight. The exception is

GANDY RED STRETCHED COTTON DUCK BELTING.

It is especially adapted for working amidst rock, dust and water, and under such conditions lasts years, where others last months. Our free booklet—"Experiences with Gandy" gives specific instances. (Gandy Belt Dressing keeps belts in perfect trim)

THE GANDY BELTING CO. BALTIMORE, MD.



HOWELL'S Celebrated Ball Bearing Heavy Geared Post Drills

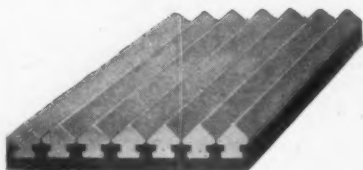
For boring anything that
an Auger will penetrate.

Awarded Gold Medal, St. Louis.

We make 40 different styles machines run by Hand, Compressed Air and Electricity for boring Fire Clay, Coal, Rock, Rock Salt, Gypsum and Plaster Rock. Send to day for our handsomely Illustrated Catalogue.

HOWELL MINING DRILL CO., PLYMOUTH, PA.,
U. S. A.,
(ESTABLISHED 1878.)

A Tempered Steel Jaw Plate for Blake Type Crushers



Canda Tempered Steel Crusher Jaw Plate

Patented March 31, 1908

CHROME STEEL WORKS CHROME, N.J., U.S.A. (FORMERLY OF BROOKLYN, N.Y.)

The Canda Tempered Steel Jaw Plate for Blake Crushers is composed of Forged and Rolled Chrome Steel Bars, cast-welded and also mechanically interlocked into a backing of tough steel—and the wearing face is tempered to extreme hardness. We are equipped to supply both corrugated and smooth face plates for all sizes and makes of Blake Crushers.

The Canda method of cast-welding forged and tempered steel bars into a mild and tough Steel Backing, is adapted also to the construction of Cone Heads for Gyratory Crushers, Segments for Corrugated Rolls, etc., etc.

Our products in this line are sold with our special guarantee that they *will wear longer, give better satisfaction and, at our price, prove more economical than any others now on the market.*

— Send for Descriptive Pamphlet —

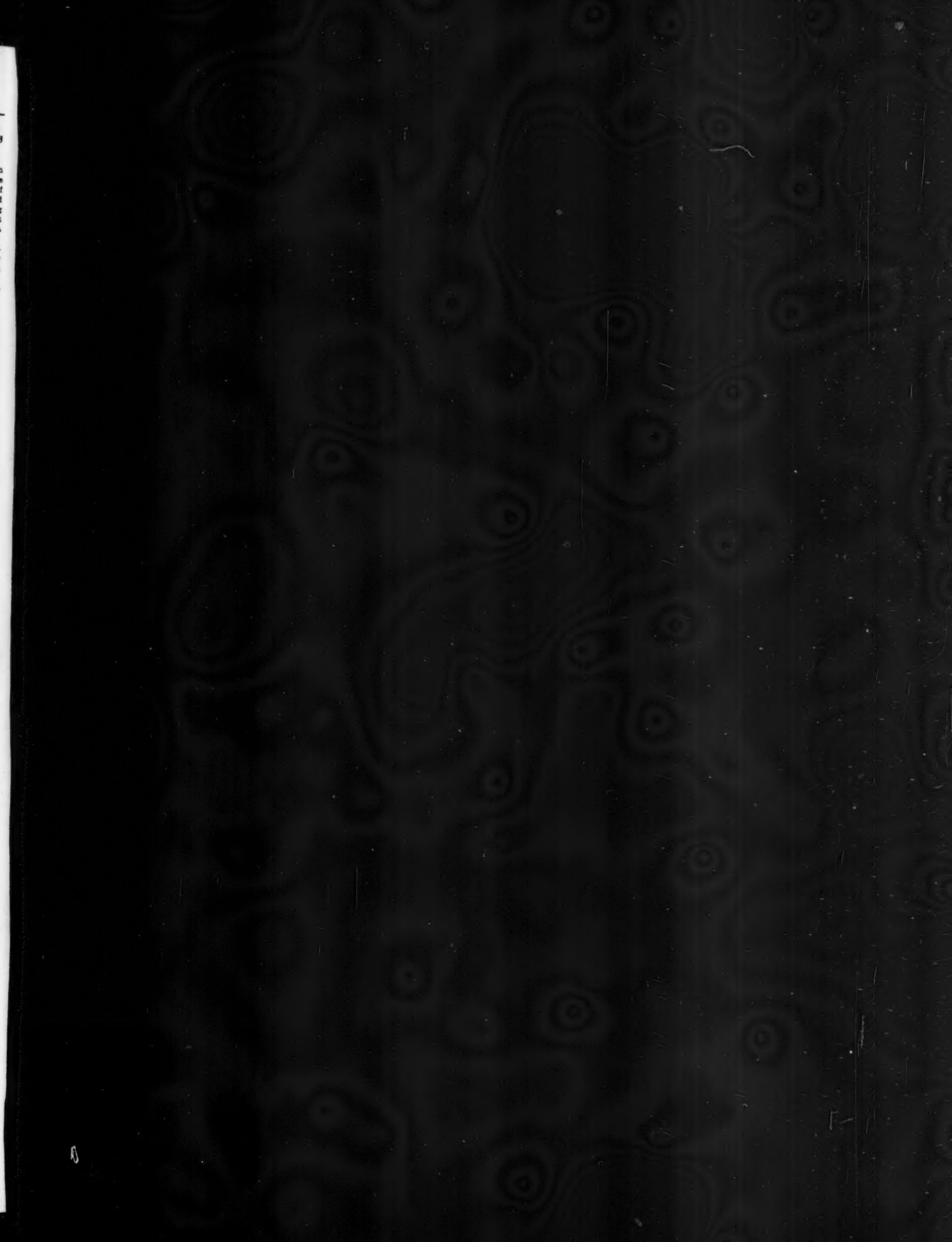
Represented by

J. F. Spellman, 202 Century Building, Denver, Colo.

George T. Bond, Easton, Pa.

George W. Myers, San Francisco, Cal.

Tell 'em you saw it in ROCK PRODUCTS.



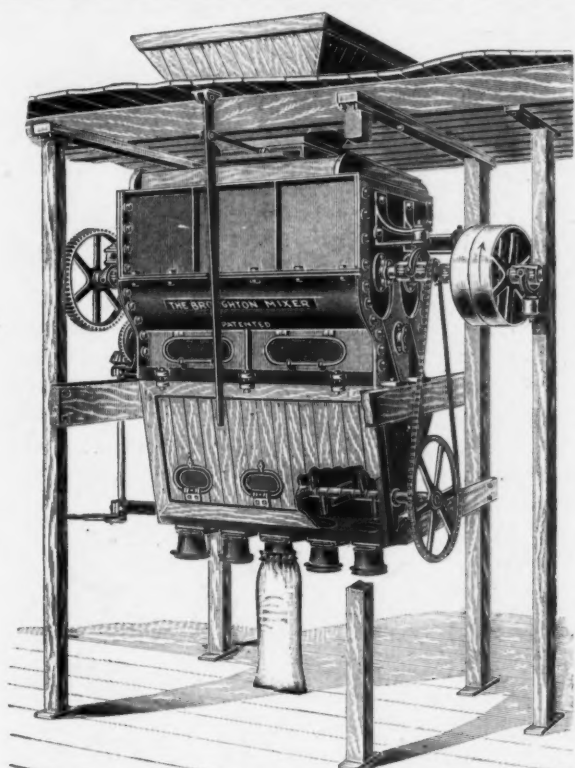
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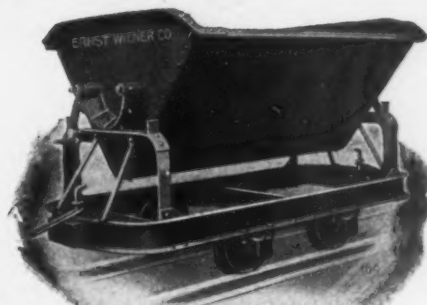
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The most thorough and efficient
Mixers of Plaster, Cement and
Dry Materials. Send for Circular.

W. D. DUNNING, Water St., Syracuse, N. Y.

QUARRY AND CEMENT CARS



Double Side Dump Car built for 18-54 cu. ft. capacity and 24" to 36" gauge.

Our cars **Stand Hard Service** because the material that is embodied in them is of the best quality. The construction is of the latest and most approved type.

Our cast iron wheels have an extra high flange and broad tread which has a deep chill.

Let us quote prices on your requirements.

Large Stock of Cars, Rails, Portable Track, Switches, Turntables, Etc. Get our Catalog 17 and Stock List.

RAILROAD SPECIALISTS FOR ALL INDUSTRIES.
ERNST WIENER
•COMPANY•

196 Fulton St., New York, N. Y.

Denver, Colo.—407 14th St. Pittsburg—Union Bk. Bldg. Boston—141 Milk St.
Chicago—Monadnock Bldg. Bisbee, Ariz.—P. O. Box 597.
San Francisco—202-2nd St.

Sand-Lime Brick Machinery

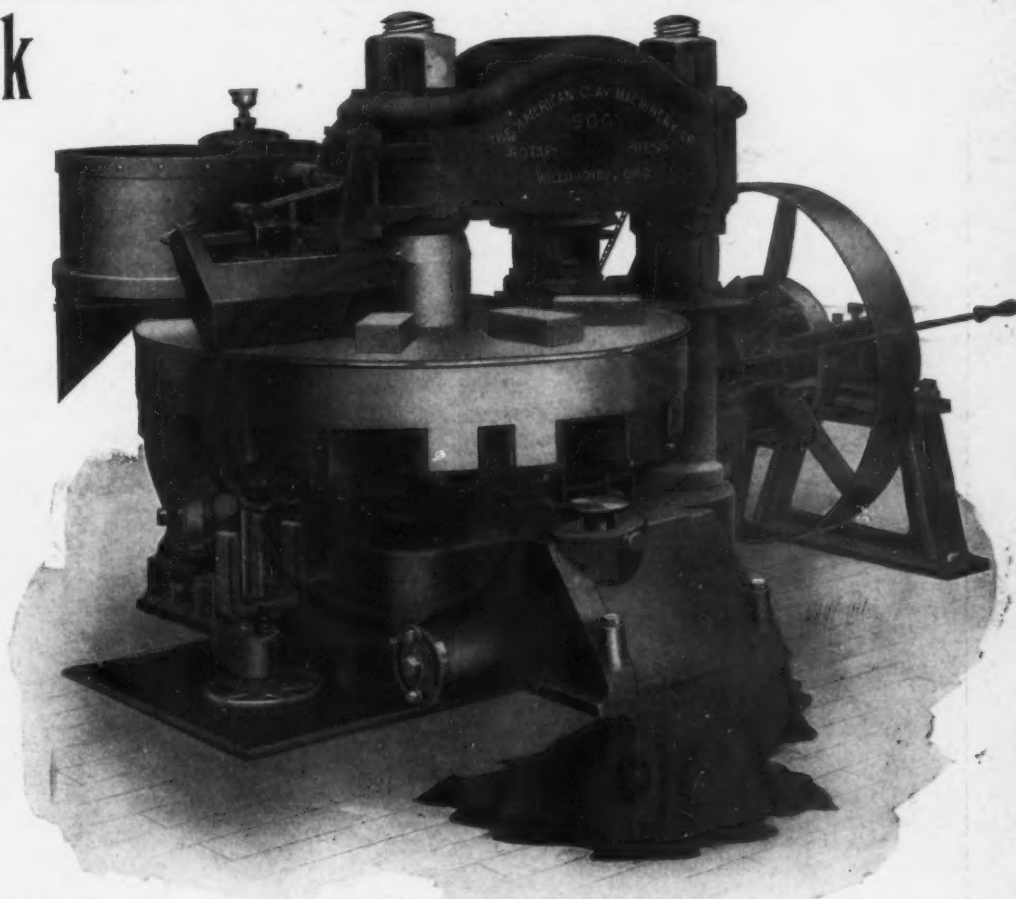
OUR Sand-Lime Brick Machinery is at least a little better than any other. We have testimonials to show it. We build it all in our own factory and are sure of its quality. We are the only firm doing this. We will design and equip your entire plant or will sell you parts of your equipment. Our catalog describing and illustrating our full line will be sent upon request.

We also build a full line of machinery and appliances for making Clay Products, Cement and Pottery, Dryers and Dryer Apparatus.

Everything we sell we make. We therefore know its quality to be right.

**The American Clay
Machinery Company**

WILLOUGHBY, OHIO, U. S. A.



Tell 'em you saw it in ROCK PRODUCTS.

WE BUILD
CARS
FOR



No. 2174E
Side Dump Car
Equipped with Motor

QUARRIES,
MINES,
CEMENT
WORKS
AND
GENERAL
USE



No. 277
Steel Mines and Quarry Car



No. 145-C
Pressed Steel Top Ball Bearing
Turntable; Patented

SWITCHES,
FROGS



No. 608
Steel Dumping Bucket

RAIL,
TURNABLES

THE ATLAS CAR & MFG. CO.
CLEVELAND, OHIO.

350,000 Cubic Yards of Concrete

This vast quantity of concrete was used in the construction of the great McCall's Ferry Power Plant on the Susquehanna River. The mixing plant was the largest ever established in this country, having a capacity of 2,000 cubic yards per day of ten hours. To ensure durability of construction in this costly engineering work the company used "GIANT" PORTLAND CEMENT, Manufactured by the

American Cement Co.
PHILADELPHIA

ARE YOU GOING TO BUILD?

No matter what kind of a structure you contemplate building, it will pay you to post yourself on the advantages of concrete construction made with

Daily
Capacity

ATLAS

Over
40,000 Barrels

PORTLAND CEMENT



A concrete building means protection from fire, vermin and decay. It is cool in summer and warm in winter; requires no paint or repairs, yet permits of pleasing architectural effects and color schemes. In most cases you will find concrete construction the least expensive in the beginning and in all cases the cheapest in the end.

The success of concrete construction depends largely on the quality of the cement used. ATLAS is the highest grade of Portland Cement manufactured.

This Company makes but one quality—the same for everybody.

Tell your architect to specify ATLAS.—Ask your dealer for it. You will know it by the Trade-Mark.

Building Books FREE on request. As a guide to prospective builders we have published the following books which will be sent FREE on receipt of postage.

Concrete Country Residences. Postage 25 cents.

Concrete Cottages. Postage 1 cent.

Concrete Construction about the Home and on the Farm. Postage 4 cents.

Reinforced Concrete in Factory Construction. Postage 10 cents.

THE ATLAS PORTLAND CEMENT COMPANY

DEPT. V

30 Broad St., New York

Tell 'em you saw it in ROCK PRODUCTS.